

INSIDE DOPE

by GEORGE F. TAUBENECK

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In His Spare Time
Tingling Sensation
Which Made History
Really, It Was an Accident
Horror!

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Sibling Complaint

Ernie stared daggedly at his new baby sister. She cried all the time and, furthermore, he had been ignored for too long.

"I know why Momma says she came from heaven," he muttered. "They probably kicked her out!"

In His Spare Time

Enrollees in a midwestern town's kindergarten regularly take home a standard questionnaire to be filled out by a parent.

First question: "How many children are there in your home?"

Second: "What does your father do for a living?"

A typically harassed mother answered as follows:

"We got 19 children. My husband can also repair leaks in plumbing when he's a mind-to, and is handy around the house in other ways."

Tingling Sensation Which Made History

Shortest and best biography of Benjamin Franklin we've run across was turned in to Miss Hess of the Pere Richard grade school in Grosse Pointe, Michigan. Quote:

"Benjamin Franklin, who signed his essays 'Poor Richard' was no relation to our patron saint, Pere Richard who was a missionary from France. Their names aren't even pronounced alike, and Franklin was an American."

"Anyway, Ben Franklin was born in Boston. He didn't have a good job there so he went to Philadelphia. Munching a crust of bread he met a pretty girl. She laughed at him so he married her and discovered electricity."

Really, It Was an Accident

Passing by, a neighbor was horrified to see Jackie kick Jill smack in the breadbasket.

"You bad boy!" she remonstrated. "Why did you kick this sweet little girl in the stomach?"

"Aw, I didn't mean to. She turned around too fast."

Horror!

Excerpts from examination papers turned in by ninth graders:

"A monolog is a conversation between two people, like a husband and wife."

"Chivalry is when a man gives his seat to a woman in a public convenience."

"A skeleton is a man with his outside off and his inside out."

Future Financiers

"What's the matter, little man?" "Baw-w-w I lost a dime down this sewer, and I'll never get it back."

"Ah, my boy, never lose courage. It's always darkest before dawn. Here are two dimes. Now . . . ahem . . . feel better?"

Instead of perking up, the urchin cried harder than ever. Moments later his benefactor succeeded in shutting off the flow of tears long enough to hear the lad exclaim:

"If I hadn't lost that first dime I'd have thirty cents now. Baw-w-w-w!"

Two lads, one attired in a Boy-Scout uniform, found a wallet. Inside the billfold were 64 dollars, a driver's license and other items of identification.

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REMA Schedules 3 Major Talks For Greenbrier

WASHINGTON, D. C. — Three talks, including one by A. Gordon Wootton, chief of the Refrigeration & Air Conditioning Section, National Production Authority, on the current status of controlled materials, will be presented at the 17th annual convention of the Refrigeration Equipment Manufacturers Association.

The convention will be held March 26-28 at The Greenbrier, White Sulphur Springs, W. Va. Events scheduled are a meeting of the board of directors on Wednesday, March 26; credit group and product section meetings on Thursday; and the annual meeting on Friday.

In addition, an informal social program has been arranged for Thursday evening. This will include a cocktail party, buffet dinner, and entertainment. Music will be provided by a strolling trio, and a professional master of ceremonies will handle the entertainment program.

The annual meeting on Friday morning will get under way with an 8:30 breakfast session, after which W. A. Siegfried will present the president's annual report. Following a short recess, the meeting will continue with a report of the treasurer (Concluded on Page 4, Column 3)

Easing of Curbs on Construction Likely In 3rd Quarter

WASHINGTON, D. C. — Manly Fleischmann, chief of the Defense Production Administration stated recently that:

1. New commercial and non-defense construction projects will be allocated steel, copper, and aluminum beginning in the third quarter of this year.

2. DPA may decontrol the more plentiful forms of carbon steel by the fourth quarter and aluminum by the first quarter of 1953.

Materials will be made available for a substantial number of starts on commercial and non-defense construction projects in the third quarter, he said, and those that are not given materials in that quarter will be given advance allotments for the fourth quarter.

Preference will be given to projects in areas that have been hard hit by lack of defense construction and curtailment of peacetime construction. All industrial projects will

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If Space Ships Become Reality (and They May Soon), They'll Need Air Conditioning

NEW YORK CITY — If and when the "space ship" era comes into being — there will be a new market for air conditioning.

This is made evident in the March 22 Collier's magazine report "Man Will Conquer Space Soon" made by leading scientists studying rocket ship propulsion and the possibility of the establishment of a man-made satellite to revolve around the earth a thousand miles or so above the earth.

In a fine job of searching out present-day facts and future facts about rocket-propelled "space ships," Collier's presents the story of how the rocket ships and the man-made "satellite," which would encircle the earth at tremendous speeds, would have to be constructed in order to sustain life for the humans who would man such ships.

In its description of "A Station in Space" one of the headlines says of

it, "a self-contained community, this outpost in the sky will provide all of man's needs, from air conditioning to artificial gravity."

Cooling and heating of the "space station" may be accomplished by controlling heat from the sun's rays, but it will all be tied in with the station's air conditioning plant, one article says. The air in such a station will have to be dehumidified (as crew members will lose more than 3 lbs. of water per day through breathing and perspiration), and it will be necessary to remove odors also.

Rocket ships which travel to and from the space stations and to other planets (which is termed possible) will travel at such speeds that under certain conditions their outer metal skin will heat to 1,300° F. which will necessitate the use of "refrigerator type air conditioning systems for crew and cargo spaces," one article states.

Tyler Introduces Silver Anniversary Line of Food Cases

NILES, Mich. — New frozen meat cases, "blind-front" open produce cases with wide stainless steel mouldings, and frozen foods display cases are among the items in Tyler Fixture Corp.'s new "Silver Anniversary" line.

Features of the line include improved "High Level" refrigeration in all open cases and automatic defrost. The former "forces a wide spread of cold air throughout open display areas and permits higher piling of merchandise," according to the company.

Robert L. Tyler, president, said the new line incorporates latest developments for more efficient storage, display, and sale of perishable foods, and is designed for larger volume.

(Concluded on Page 4, Column 4)

Contract Work—

What do the manufacturer, consulting engineer, contractor, and user expect from each other on the larger jobs? Representatives of each revealed their views in a mighty interesting symposium that's reported on page 3.

Frozen Foods—

Lack of cases is a bottleneck in the frozen food industry, but how to get more of them in the field is a controversial problem, as pointed up on pages 8 and 9.

Room Cooler Sales Show Sharp Increase in Houston

HOUSTON, Tex. — Although total 1951 Houston-area distributor sales of certain appliances, notably refrigerators, were not equal to the record-breaking year of 1950, sales of room coolers gained 66% and those of central air conditioning units rose 14%, according to Houston Lighting & Power Co.

Other appliances and equipment showing increased sales over 1950 were clothes driers, which more than doubled the 1950 total; dishwashers, up about 15%; roasters, 55% higher; and electric bedding, up 90%.

Figures compiled by the utility from reports received from 60 distributors, jobbers, and other local sales agencies having factory connections also revealed that more than

(Concluded on Page 17, Column 1)

Deering Designs Room Cooler for Casement Window

CINCINNATI — Designed specifically for steel casement windows is the new Deering room air conditioner which is being introduced to the field by the Deering Air Conditioning Co. here.

With a somewhat unusual design and special mounting construction, the Deering air conditioner provides quick mounting in a casement window without any extensive renovations of the window or surrounding construction, officials of the company declare. The Deering unit will be available in 1952 in ½-hp. and ¾-hp. sizes.

A feature of the "different" design is in that the part of the room air conditioner unit which extends outside of the window is split into two sections, one containing the compressor, and the other containing the condenser.

There will be no need to cut or alter casement window mullions and muntins, Deering officials state, or to hire special labor in making the installation. There will be no need to

(Concluded on Page 2, Column 1)

Penn Statistics Show 5-Yr. Sales by Month

PITTSBURGH — A chart showing the average yearly sales of individual household appliances by months based on actual sales information supplied by southwestern Pennsylvania dealers over the past five years was published recently by the West Penn Power Co. here.

The chart was suggested as a comparison standard for dealers in the territory against which to measure their sales budgets for the coming year.

"In studying these figures," the utility cautioned, "keep in mind that they have been influenced by varying degrees of product availability during the period they cover."

"It's important to remember also that the statistics . . . are made possible only through the cooperation of participating dealers who send in their monthly sales reports."

The utility suggested that dealers study the figures closely. "You may discover that a change in the timing of your promotions on certain appliances is indicated," it continued. "Perhaps you planned a seasonal

(Concluded on Page 17, Column 3)

'Freons' Off Allocations; Supplies Ample

Excessive Demand Period
Following Korean Outbreak
Has Now Levelled Off

WILMINGTON, Del. — "Freon" refrigerants have been taken off of allocation and may now be purchased without limitation subject to established conditions of sale set up by Kinetic Chemicals Div. of E. I. du Pont de Nemours & Co., officials of Kinetic have announced.

In announcing this step, Kinetic stated that "shortly after the Korean war began, there developed a fear-buying wave which spread to many classes of products. While there was at that time, and subsequently thereto, adequate 'Freon' available for all requirements, there was a tendency on the part of some people to purchase in excess of their needs, thereby creating possible hardships on others."

"Consequently, in order to provide as equitable distribution as possible, Kinetic Chemicals Div. inaugurated a controlled distribution plan in September, 1950, allotting 'Freon' to all resellers on a basis of purchases during a representative period. Through the cooperation of the resellers, the plan has been entirely satisfactory. No equipment is idle at this time, nor has any been idle from lack of 'Freon'."

"Stocks of 'Freon' in the field are now far above normal, as is true of our inventory position at both plants. Raw materials are in ample supply and the outlook favorable. Cylinder returns have improved and with recent deliveries of new cylinders, it is apparent that adequate containers are available."

"Therefore, there is no further need for controlled distribution and effective immediately 'Freon-12' as well as other 'Freon' compounds, may be purchased without limitation subject to our established conditions of sale."

House Clears Way For Fair Trade Vote

WASHINGTON, D. C. — Congressional action which would permit enforcement of state fair trade laws came a step closer last week when the House Rules Committee approved bills introduced as an aftermath of the U. S. Supreme Court decision last year.

It approved a bill brought out by the Commerce Committee bearing the name of Rep. McGuire of Connecticut and backed by the National Association of Retail Druggists.

It paved the way for a rival bill — authored by Rep. Keogh of New York and supported by the Judiciary Committee — to be considered as a substitute for the McGuire measure.

Both measures were drafted, their sponsors said, to "cure" a U. S. Supreme Court decision of last May. The court said enforcement of "fair trade" laws against retailers who do not sign agreements to observe price regulations set by manufacturers was not permissible. It left non-signers free to sell at cut rate prices if they wish.

NEMA To Tell Schools About Home Freezers

CHICAGO — At the annual winter meeting of the major appliance sections of the National Electrical Manufacturers Association, the Farm & Home Freezer Section unveiled one of its new 1952 projects — a visual aids program for use by home economics teachers in schools, and home economists.

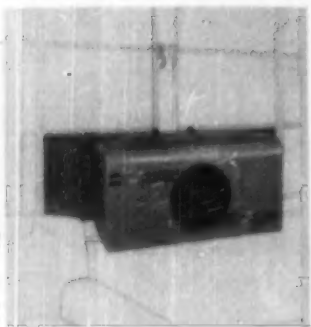
NEMA said the program, which will be available for the 1952 school term, "is probably the most ambitious ever attempted in this field."

It includes a series of 13 wall charts for classroom use, in full color, tracing the history of food preservation and demonstrating the

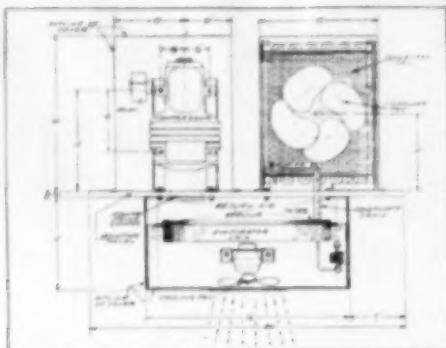
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DEERING 1/2-hp. window type room conditioner designed for installation in casement windows.



SKETCH shows working parts of Deering room cooler. Division between compressor and condenser is shown.

Deering Room Coolers for Casements--

(Continued from Page 1)

stock wing adapters, brackets, frames, or special bolts and nuts to make the installation.

To install the Deering unit the two lower panes in the casement windows are removed and the unit is slid into the openings. Unit is held in place by a simple clamp arrangement. The 10-in. plywood facing and sealing strip can be cut to a shorter length as desired.

The company is headed by Clifford P. Hoesgen and Thomas J. Deering. Hoesgen has 25 years' experience in merchandising consumer goods, having been a home furnishings merchandise manager for Montgomery Ward; buyer and merchandise manager for Mercantile Stores Inc.; and divisional

merchandise manager for Ernst Kern Co., Detroit department store.

Tom Deering, who developed the design and holds patent claims on the Deering unit, was most recently a product specialist for Carrier Corp. and before that served in managerial capacity for Carrier, York, and Ajax distributors in various parts of the country.

Models of the new conditioner have been put through exhaustive field tests and carry certified ratings from leading testing laboratories. All parts and material with the exception of the hermetic-type compressor unit will carry a one-year factory warranty. The compressor will carry a five-year warranty.

Suggested retail prices are \$349

for the 1/2-hp. unit and \$429 for the 3/4-hp. unit.

Specifications have been released thus far on the 1/2-hp. model only. The circular, directional air outlet grille in the front center of the cabinet may be adjusted to direct the cooled, dehumidified and cleaned air in any direction desired.

Outside air may be introduced in various amounts up to 150 c.f.m. Air cleaning is accomplished by two replaceable-type filters.

Cooling effect is furnished by a 1/2-hp. "Copelametic" compressor using "Freon-12" as the refrigerant. Evaporator fan motor is 1/4-hp. shaded pole type, and condenser motor is 1/2-hp. shaded pole type.

Over-all dimensions of the entire assembly are height, 16 in.; depth, 32 in.; length, 40 in. Cabinet extends 12 in. into the room. Net weight of the 1/2-hp. unit is 270 lbs.



FEDDERS, Not G-E, Window Coolers Were Used In Brazos Steel Apartment Building



WINDOW AIR CONDITIONERS in this installation in the Brazos Steel apartment building in Waco, Tex. are FEDDERS units, not General Electric as they were incorrectly identified in the Feb. 18 issue. All 48 efficiency apartments in this unusual apartment house have a Fedders room air conditioner. In construction of the building a steel platform was included in the window sash, on which the air conditioner rests.

Dry Ice Companies Agree To Entry Of Consent Decree In FTC Restraint Suit

NEW YORK CITY—A three-and-one-half-year legal battle over a civil anti-trust action was ended when four manufacturers of carbon dioxide and dry ice and an affiliated patent holding company agreed to entry of a consent decree in Federal Court, Brooklyn.

The Federal government had charged that the companies had been acting in restraint of trade. Defendants were The Liquid Carbonic Corp., Long Island City, Queens; Air Reduction Co., Inc., New York City, and its subsidiary, Pure Carbonic, Inc.; Wyandotte Chemicals Corp., Wyandotte, Mich.; and International Carbonic Engineering Co., Wilmington, Del.

The decree orders:

1. That Liquid Carbonic must sell through a court-appointed trustee its carbon dioxide plant in Long Island City and its carbon dioxide and dry ice plant in Indianapolis.

2. That defendants must terminate contracts under which they previously had purchased the entire output of certain other carbon dioxide producers.

3. That defendants must reduce substantially the amount of carbon dioxide and dry ice which they have been in the habit of purchasing from the main producers of carbon dioxide in the Philadelphia-New York, and Detroit-midwest areas.

4. That Liquid Carbonic and Pure Carbonic must not sell carbon dioxide at retail in areas where they previously had not been doing so.

5. That Liquid Carbonic, Pure Carbonic, and Wyandotte Chemicals must sell carbon dioxide to distributors on a non-discriminatory basis.

6. That International Carbonic must not enforce its principal patent.

7. That price fixing, allocation of territories, and acquisition of competitors are prohibited.

An investigation into the alleged combine was begun 12 years ago by the Attorney General's office in Washington. According to Samuel Flatow, special assistant to Attorney General J. Howard McGrath, the combined companies were doing an annual business of \$50,000,000.

Flatow said the combination had entered into a program as long ago as 1929 to eliminate competition in the carbon dioxide and dry ice industry.

Herman Nelson Appoints Burbank, Carroll, Meyer

MOLINE, Ill.—Richard M. Burbank has been named assistant sales manager of the Unit Ventilator Div., Herman Nelson Div., American Air Filter Co., Inc., according to Robert W. Nelson, company vice president. Burbank was formerly manager of the company's Boston branch office.

Other announcements named Frank T. Carroll, Jr. and Harold F. Meyer as regional product application engineers for the Merchandise Products Div. Carroll will serve the East and West Coast offices of the company, while Meyer services Herman Nelson offices in the Midwest and South.

Burbank graduated in 1943 from Northeastern university, Boston, with a degree in civil engineering. After graduation he enlisted in the Navy, serving three years, two in the Pacific. In 1946 he was discharged with the rank of lieutenant, j. g.

That same year Burbank joined the Boston branch office of Herman Nelson as a product application engineer. He was named manager of that branch in July, 1950.

Carroll served three years in the Criminal Investigation Div. of the U. S. Army. He was graduated from Villanova in 1949 as a mechanical engineer. After graduation Carroll joined the Philadelphia branch office of Herman Nelson as a product application engineer, a position he has held until his present appointment.

Meyer served over three years in the Army, 16 months in the European theater. After graduation from the University of Illinois in 1948 as a mechanical engineer, Meyer joined the Chicago branch office of Herman Nelson as a branch office product application engineer. In June, 1950, he moved to division offices in Moline, to serve in the same capacity.

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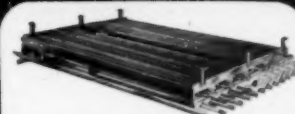
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What's Best for User and—Industry, Too?

Various Views Aired When Manufacturer, Contractor, Consulting Engineer, and Buyer Debate Their Roles at ASRE Symposium

By C. Dale Mericle

WASHINGTON, D. C.—Mutual problems of the manufacturer, contractor, consulting engineer, and consumer that come up in the design and purchase of a refrigeration or air conditioning system received an airing when representatives of each group participated in a symposium staged here by the Baltimore-Washington, D. C. ASRE section.

Speaking for the manufacturer was J. M. Lambert, manager of consumer sales for York Corp.; Nash M. Love of the W. H. Singleton Co. represented the contractor; Thomas H. Urdahl, the consulting engineer; and F. W. Sedgwick of Safeway Stores, Inc., the consumer.

At the session, which was held in the auditorium of Potomac Electric Power Co., Walter H. Volker of Baltimore Gas and Electric Co. served as moderator.

"York Corp.," Lambert pointed out, "endorses the 'mechanical contractor plan' which has been backed by national advertising, and does not attempt to usurp the place of the contractor and the consulting engineer."

'Mechanical Contractor Plan'

"In essence, this plan states that the owner (principally with air conditioning installations) will be best served by the services of a consulting engineer of professional skill and high integrity who surveys the premises, writes the specifications, and prepares plans suitable for competitive bidding by mechanical contractors capable of making the complete installation.

"We believe we should all serve the customer because he pays the bills and keeps us all in business. York prefers in most cases to supply the equipment that it manufactures to these mechanical contractors with only the minimum of directly pertinent equipment such as motors, speed increasers, and perhaps shell insulation.

"Prospective buyers of refrigeration and air conditioning equipment would be wise to ask more questions about, and give more consideration to, maintenance cost," Lambert suggested.

"Maintenance is paid every year, whereas first cost is paid only once. Consulting engineers would serve their clients better by requesting definite commitments on maintenance from bidders.

"No consulting engineer can hope to be completely and constantly informed of all the latest techniques of every manufacturer, and so he should invite contractors to submit alternates. These must be kept within certain specified limits, of course, but two heads are better than one.

What Is Basis of Bids?

"More frequently, consulting engineers' specifications should state the basis on which the bids will be evaluated," Lambert declared. "The contractor should know whether the owner will stress lowest first cost (such as for a short comfort air conditioning season), or lowest operating cost (for round-the-clock operation), or perhaps lowest investment cost.

"We also like to have a 'conditional sales contract' in which we agree to furnish certain things while the customer agrees likewise that he will furnish other things.

"We think, too, that the consulting engineer shouldn't have to 'cram' in order to 'ram out' the specifications to be given the bidders. We believe also," Lambert continued, "that some mechanical contractors are penny-wise and pound-foolish. They're too interested in getting a low material cost as compared with the cost of installing the material.

"There are some consulting engineers who think they'll protect the interests of their clients by putting in 'murder clauses' with respect to guarantees. Reputable contractors aren't afraid of making a sound guarantee of their equipment but they don't want 'murder clauses,'" Lambert emphasized.

Presenting the views of the consulting engineer, Urdahl pointed out that "there are today what might be termed 'consulting engineers' and 'layout men.' There is a difference, but the term 'consulting engineer'

has been stretched considerably over the past 25 years.

"The client shouldn't expect to get complete plans from a true consulting engineer. You might be given some plans, say, covering the intricate details of some one thing, but then you'd go to a design engineer to have the complete plans drawn up.

"Now to be a consulting engineer you're supposed to know the subject thoroughly and understand the problems presented by the client. Actually, it's the consulting engineer's first duty to analyze his client to see if he can purchase the system he wants and whether that system will be within economic bounds.

"If the job is too expensive, it merely wastes the time of the bidders and the consulting engineer," Urdahl declared.

Exact Data Necessary

"The term 'or equal' is not especially useful in specifications. In my office we prefer not to mention it in our specifications. To avoid misunderstandings we use a bid form which includes a list of material about which there might be any dispute so the contractor can fill in exact data as to what he's going to use: the items themselves, subcontractors, prices, etc.

"This can be accepted just as it is, and it saves much time, which is all we have to sell. It sometimes happens that without this bid form we don't know whose equipment will be used. Then the chiseling starts, but instead of a chisel they usually use a razor.

"The matter of alternates is very valuable to the consulting engineer and his client," Urdahl admitted. "The consulting engineer should welcome these suggestions because there can always be another way of doing things.

"We invite alternates but these have to be submitted separately so as not to jeopardize the other bids. When the bids we receive, incidentally, are more than 10% apart between the high and the low, we review our specifications because either we made a mistake or something was misunderstood.

"If an alternate bid, however, is much lower, then we discuss it with the client. If we're both interested, we revise the 'specs' and invite new bids from all the previous bidders.

"We usually have found that when a contractor submits an 'or equal' material or item on his bid, he always sends the manufacturer's representative to the consulting engineer but doesn't come himself. This brings a third party into a contractual agreement.

"Bring the manufacturer's representative with you, if you like," Urdahl advises contractors, "so he can back up your story with technical details, but don't send him alone."

Role of Consulting Engineer

Turning to general problems, Urdahl indicated that "many clients don't know what a consulting engineer should do. Usually the client comes to us only when he's thoroughly confused after trying in vain to get the answer from contractors or material suppliers.

"This confusion is brought about because everyone he talks with about his problem is thinking 'here's some possible business; how can we get it?' One will tell the client that the job requires 50 tons, the second says 45 tons, and so on until the customer says to himself, 'I'll bet I can get it done with 30 tons.' Then he comes to us."

The relationship between the contractor and the other factors was brought out by Love, who declared that "owners today are becoming more conscious of mechanical systems because they now account for 35% or more of the building's cost and they're much more complex.

"Proper maintenance is a necessity if a mechanical system is to last the life for which it was designed. This poses two problems. First, the contractor should sell the owner on the idea of getting his maintenance engineer on the job at the beginning of the installation so he'll be thoroughly familiar with all aspects of it. Second, the contractor should see that

all equipment has plenty of room around it for adequate maintenance. If equipment is not accessible, it won't be properly maintained.

"In dealing with consulting engineers the contractor has several problems," Love asserted. "Incomplete specifications often result in the wrong equipment being installed on a job.

"For example, the specifications may state that a standard starter will be required for an electric motor. Actually, the 'specs' should give the interrupting capacity. The contractor himself can't determine this from the size of the motor specified because it has no relation to the size.

"The consulting engineer and the power company should determine this and inform the contractor in the 'specs.' If this matter isn't determined properly, a short could burn out a transformer, for example, and cause considerable trouble.

"And speaking of 'specs' in general, I think it's time that some of the deadwood should be removed from them," Love declared.

"Manufacturers and their representatives shouldn't select equipment on the basis of low cost only, or on the drawbacks of competitors' equipment when assisting the contractor in preparation of his bid, and bids should have to be submitted three days ahead of the award date to per-

mit a careful analysis, something which can't be done by the owner or the consulting engineer at the last minute."

How the owner views these mutual problems was outlined to some extent by the representative from Safeway Stores, Inc., which operates a vast chain of food markets. Sedgwick, the speaker, is construction superintendent of Preston Construction Co., a division of Safeway, which handles all the chain's building activities.

Because of its size, Safeway "employs a vast amount of wide variety of makes of refrigeration equipment, and on large jobs consults directly with the manufacturer," Sedgwick explained. "On smaller jobs, however, local contractors are invited to bid.

Complete Drawings Avoid Misunderstandings

"All equipment manufacturers employ competent engineers whose services we can use, thus eliminating our need for a consulting engineer. On new construction we ourselves furnish all drawings. We think that the ideal way to avoid misunderstandings is for the customer to submit complete drawings—architectural, mechanical, and construction. Often, however, work has already started before all the drawings are completed, so therefore we have to coordinate all activities closely."

It was admitted by Sedgwick, though, that due to its large size Safeway could hardly be considered as a "typical" customer who would normally be much more dependent on the consulting engineer, contractor, and manufacturer to get the type of installation he wanted and needed. Questioned as to whether he

thought it "fair to accept the lowest bid without regard to maintenance," Sedgwick explained that "our requirements are based on the 'lowest over-all investment cost' which also includes maintenance. We may be unusual as a customer," he said, "because we have our own engineering department and also have much experience with all types of nationally known equipment."

"What do you think of various contractors submitting bids on large jobs which involve much engineering work when all of them except the successful bidder are merely wasting their time?"

"We're opposed to contractors being drawn into these air conditioning jobs," declared Lambert of York, "and we back up our belief with national advertising. We think a consulting engineer is necessary."

"Sometimes installations are not put in up to specifications. How," Urdahl was asked, "does the consulting engineer get satisfaction in this case for his client?"

"If the equipment or workmanship doesn't meet the specifications, the consulting engineer must have the contractor make replacements. Most contractors want to do the job right without making any mistakes, and they like us better if we point out their mistake and make them correct it."

"But suppose things are installed according to 'specs' but the job is not satisfactory. What happens then?"

"If the job goes in right but doesn't work, then it's the fault of the consulting engineer," Urdahl admitted. "But there can be minor flaws of workmanship or equipment that would make the installation unsatisfactory."

YOU CAN BE **SURE**...IF IT'S

Westinghouse

SURE OF OPPORTUNITY AND PROFIT—

by qualifying for the Westinghouse Air Conditioning Franchise in your trading area.

SURE OF THE HERMETICALLY-SEALED COMPRESSOR

Westinghouse features the CLS (seal-less) Compressor—hermetically-sealed, refrigerant-cooled, Freon-12 compressor-motor units ranging from 2 to 100 tons capacity. Pioneered for air conditioning use by Westinghouse in 1935, this design has continually been refined and improved. It has established a trend in compressor design throughout the industry.

Hermetic construction permanently seals oil and lubricant in, dirt and moisture out. The refrigerant-cooled Westinghouse Lifeline Motor requires no ventilation. Simplified design reduces size and weight, eliminates belts, pulleys and shaft seals. In addition, all components are accessible for inspection and maintenance.

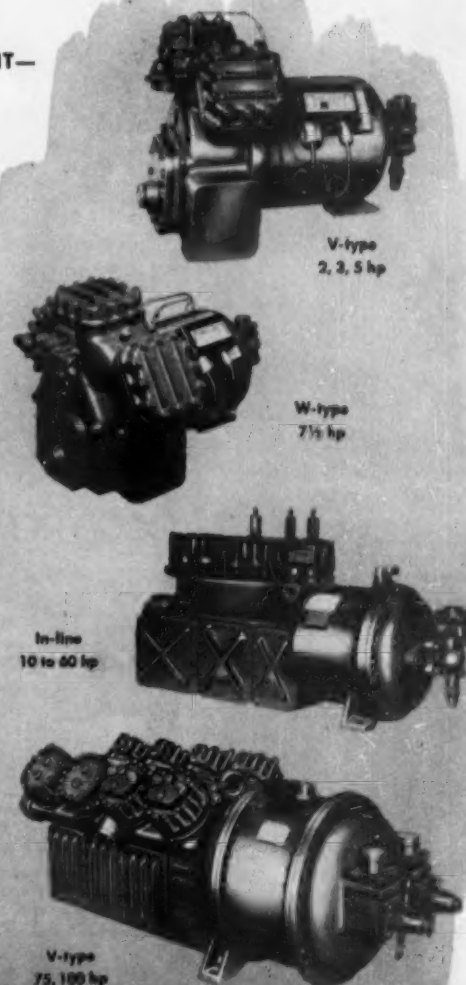
SURE OF ENGINEERING AND RESEARCH

All Westinghouse Air Conditioning equipment is designed and built to work properly together. As exemplified by the development of the hermetically-sealed compressor, they are the result of never-ending engineering and research. The years of experience behind the entire product line give you all the advantages of the many proven Westinghouse features.

SURE OF SALES ACCEPTANCE

Westinghouse Air Conditioning is an immediately recognized and accepted name. The millions of dollars spent annually to advertise all Westinghouse products builds ready-made sales acceptance for each individual product in the Westinghouse line.

There's opportunity and security—as well as profit—in a Westinghouse Air Conditioning Distributorship or Dealership. We have territories open for aggressive, merchandising-minded organizations. Get in touch with us today.



ALL HERMETICALLY SEALED—from 2 to 100 tons

WESTINGHOUSE ELECTRIC CORPORATION

AIR CONDITIONING DIVISION
Hyde Park, Boston 36, Mass.

FOLLOW THE LEADER

to quality refrigeration



LA CROSSE ICE CUBE MAKER

Here's beauty and efficiency—this compact cube maker uses every bit of its space to produce and store more and more perfect ice cubes. . . . no complicated mechanism to stall production and storage room. . . . no moving parts to wear out. . . . no service headaches. Write today for full information.



LA CROSSE SELF-CONTAINED BOTTLE COOLER

Just look at the outstanding beauty of this new cooler—notice the spacious interior, the convenient shelving and careful construction. Check all the newest features—well insulated "slide-away" doors with finger tip control. . . . adjustable partitions. . . . 3" Fiberglas insulation. . . . 1/2 h.p. hermetic sealed condensing unit. Holds 22 1/2 cases of 12 ea. bottles and beautifully finished in black baked enamel or stainless steel. It's today's finest bottle cooler and jam packed with sales appeal. Write today for full information. Also available in 4' and 6' models.

LA CROSSE COOLER CO.

Factory and Gen'l Offices:
2801 Loscy Blvd. S.
La Crosse, Wis.

Export Office: 80 Broad St. New York City. Cable Address: Eximport

REMA Meeting--

(Concluded from Page 1, Column 3) and finance committee by John E. Dube, treasurer.

Next will come talks by Irving B. Hexter, president of Commercial Refrigeration & Air Conditioning, and Wootton. The former will discuss "Unity or Dis-Unity."

R. H. Israel, immediate past president, will then present a plaque and gift to the retiring president.

Winding up the program, Ralph W. Carney, former vice president in charge of marketing of The Coleman Co., Inc., will speak on "Selling To Defend America." Carney, described as one of the nation's top sales executives, has a background of more than 30 years of successful selling.

During the March 28 meeting, the association will award a mechanical dehumidifier as an attendance prize.

Wives and daughters coming to the convention are invited to attend the social function in the Casino Thursday evening and the breakfast and general meeting scheduled for Friday morning.

Viking To Unveil Attic Fan At General Sales Meeting

CLEVELAND—Viking Air Conditioning Corp. will hold a general sales meeting here on March 24 during which district factory representatives and their salesmen will be shown the new 1952 Viking attic fan.

Plans for the 1952 marketing program will be presented at this kick-off meeting, according to Viking Sales Manager Frank Gibbons.

TYLER refrigerated display table, 1952 model, now wider, deeper, and available with casters. Complete, ready to use, it is designed to stimulate impulse buying with shopping from four sides.



LATEST model of Tyler frozen food display case with deeper glass front for greater visibility—and 40% higher display area due to Tyler high level refrigeration and stratiflow.



OPEN MEAT CASE with low canopy and fixed mirror, and front loading lower storage. Also available with rear loading lower storage.

Tyler Silver Anniversary Line--

(Concluded from Page 1, Column 3) faster turnover, and lower handling costs.

Both open meat and produce cases have new, streamlined "Waterfall" design with stainless steel trim, and come without canopies or with a variety of canopy heights and a choice of fixed mirrors, sliding mirrors, and sliding windows for rear loading. The new line's features are claimed to "provide better refrigeration, greater cubic foot capacity, wide open visibility and accessibility, and easier loading and servicing."

COMPLETENESS STRESSED

Stressing the completeness of the line, the company said it "offers the food merchant great variety and flexibility to meet his individual requirements in merchandising meat, produce, dairy products, frozen foods, bottled beverages, baked goods, and other perishables requiring refrigeration."

The line includes a wide range of refrigerated display cases in both open self-service and service types; refrigerators; walk-in, reach-in, and chest-type storage freezers; sectional walk-in coolers which can be added to as volume increases; and a full line of shelving.

Porcelain enamel dividers are available as an accessory for open meat or produce cases. Perforated porcelain shelves are also available at slight extra cost for open produce cases.

Open produce cases can be had without canopy and with the new stainless steel "blind" front. They are also available with glass front, and with front loading lower storage—or with canopy, with or without front loading lower storage.

Open meat cases, too, come without canopy or with low, medium, or high canopies. A choice is offered also in mirror types and lower storage, according to the company.

Other items in the line are the frozen meat display case; multiple-shelf meat and dairy case (available with mirror on top shelf); frozen food display case with deeper glass front for greater visibility and 40% higher display area; and refrigerated display table—now wider, deeper, more efficient, and available with casters.

OTHER ITEMS IN LINE

The line also includes a sectional walk-in freezer for bulk storage of frozen foods and ice cream; walk-in coolers of similar construction which provide space for meats, produce, and dairy products; 30-cu. ft. sectional storage freezer (regular upright and chest models also available); reach-through refrigerator for use between cutting and packaging room and open meat display cases (also for dairy products, etc.); and a bakery freezer of sectional construction for supermarkets with large bakery departments.

NEMA'S Program for 1952--

(Concluded from Page 1, Column 3) whole story of home freezing. It is supplemented by a series of instruction sheets to help the teacher in her classes and to provide actual working projects.

During the meeting, held in the Edgewater Beach hotel, major appliance sections reviewed their advertising and promotional plans for 1952. In addition to plans of the Farm & Home Freezer Section, the meeting also covered programs of the Electric Range and Electric Water Heater sections.

All sections were agreed on the necessity for maintaining these programs, even though no forecast of supply can be made at the present time.

"This agreement," NEMA said, "is based on the fact that the major appliance sections are doing what everyone in the industry should be doing—selling electric appliances in terms not only of the appliances themselves, but what they will do for the consumer, and for everyone in the industry."

Emphasis was placed on the need for coordination, to get the most out of all these efforts—that to gain full advantage of them, it is necessary that they be followed through at the point of sale.

The Electric Range Section handles its promotional work through advertising to architects and builders, home economics teachers and home

economists, school boards and school management officials, and to electric appliance dealers.

Its work in the educational field is supplemented by a teacher's manual, and a visual aids kit which includes film strips, folders, instruction sheets, quiz and answer sheets, and attendance records—all put together in a package to help teachers in their classroom or home economics class work.

The campaign of the Electric Water Heater Section covers architects and builders, electric appliance dealers, and plumbers. Testimonials are used in each field.

Shown at the meeting was a new book about to go on the press—"A View of '52"—which describes and illustrates all NEMA major appliance sections' campaigns for 1952. This book will be distributed to the industry, so it may know exactly what is being done by these promotional and educational programs, and can make arrangements for tie-in programs.

It was pointed out that the principal objective of all these campaigns by the major appliance sections of NEMA is to educate the public on the advantages and benefits contributed by electric appliances. The necessity for this work was emphasized because of the fact that many electric appliances are still unfamiliar to millions of potential customers.

LEDERLE
LABORATORIES

THE BAYER
COMPANY

E. R. SQUIBB & SONS

PARKE, DAVIS & CO.

GOOD REMEDY for business ailments



Remember this when you go out to sell Worthington air conditioning and refrigeration:

America's leaders . . . in many businesses . . . select Worthington.

For example, many big pharmaceutical houses use Worthington air conditioning and refrigeration to control chemical reactions, inhibit bacteria, prevent deterioration.

And many a corner drug store keeps up "hot weather" business by using Worthington air conditioning to "invite" more customers.

Take advantage of the completeness of the Worthington line. A Worthington distributor can handle any job with exactly the right equipment because the Worthington line is the broadest.

Worthington also advertises consistently in TIME, NEWSWEEK, BUSINESS WEEK and many other magazines read by architects, builders, contractors, food packers, frozen food producers, and by key men throughout such industries as chemical and petroleum, etc.

Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, New Jersey.

WORTHINGTON



AIR CONDITIONING AND REFRIGERATION

A Balanced Line...A Balanced Franchise

A.2.14

Tape Recordings of Interviews Show What Dealers Want In Frozen Food Merchandising

More Cabinet Space Is 'Absolute Must'; Wider Variety Of Foods, Packages In Dozen Lots Also Requested

CHICAGO—"More cabinet space is an absolute must for the store that wants to sell more frozen foods—but 'departmentalizing' of frozen foods is important too," Jack Dickie, merchandising manager of Tyler Fixture Corp., told a merchandising forum of frozen food distributors at the recent National Frozen Foods Convention here.

By departmentalizing, Dickie means that instead of all frozen foods being sold in one spot or section of the floor, frozen meats and poultry should be sold in the meat department, frozen fruits and vegetables in the produce department, and frozen baked goods in the bakery section. In that way frozen foods will benefit from the personal selling factor provided by those store employees who are in charge of the various departments.

CONSUMERS, RETAILERS VOICE OPINIONS

Dickie bases his opinions not only on his own experiences in working with retail stores in the installation of frozen food departments, but also from information gathered on tape recordings of interviews with both consumers and retail store operators in stores in Los Angeles, San Francisco, Chicago, Detroit, and New York City.

Here are some of his general conclusions:

Display space was generally inadequate. Most retailers realize this, and plan for more cabinet space, but are not too sure about the proper way to use.

In existing installations frozen food display cabinets are poorly attended. One third of the cabinet space is not being used. Very little attention is given to keeping the cabinet full or re-stocked, even on weekends. The "frozen food department" is virtually a deserted one, as far as store employees are concerned. (This is a main reason for Dickie's advocacy of selling frozen foods in the various departments into which the different foods fall.)

There was not one instance (in the recorded interview) where the installation of more cabinet footage by the food retailer has not paid off in increased volume and profits, Dickie reported. Yet the failure to get more food store operators to do this reflects a failure on the part of frozen food producers and refrigeration equipment dealers to get this profit story over to the retailer, Dickie declares.

QUANTITY PURCHASES FAVORED

The Tyler representative also believes that frozen food producers should put up special packages of 6 and 12 items for sale by the retailer that could be stamped and stored all at once, resulting in less effort for the retailer and faster storage under proper temperature conditions. Some consumers interviewed also expressed a desire to buy in such larger quantities, if discounts could be given for such quantity purchases. It was pointed out that such packages would have appeal to home freezer owners.

In Dickie's interviews with consumers these comments turned up:

1. There is not enough variety in frozen foods. Consumers will patronize the store that has the greater variety, permitting much wider selections.

2. Better arrangement of frozen foods in display cases is desired for easier selection of the frozen foods that the consumer wants.

3. Where consumers were found

ZONE SALES MANAGERS WANTED

We will employ high caliber zone sales managers, one for Northwest territory, one for Virginia-Maryland-Delaware-North Carolina area. A well-established commercial refrigerator manufacturer with nationwide selling organization, our product is essential in every food market, hotel, restaurant, institution, etc., but you would be working with present distributors and appointing new ones. Our selling season is year around with peak sales just ahead. It's a good opportunity if you're not satisfied with progress you're making or have reached the top with present occupation. Write us your qualifications and we'll tell you details of our offer. Address: Box 3848, Air Conditioning & Refrigeration News.

putting packages back into display cases after having taken them out, the reason was found to be that the customer had found the package soft—thawed out—and one thing that all consumers will shy away from is a package that they believe to have been defrosted.

In interviews with merchants, it was found that the smaller ones (those doing under \$150 a week in frozen foods) realized most acutely the need for greater cabinet space to increase their volume.

There was a call too, for more frozen meats—cuts such as pot roasts, etc., for the weekend trade in particular. Many small merchants said that if they could have a 100% frozen meat department, they would buy a cabinet for it.

Charlotte 'Observer' Bldg. Gets 150-Ton System

CHARLOTTE, N. C.—Page Air Conditioning Co., Inc. here has been awarded a contract for complete air conditioning of The Charlotte Observer building.

The installation will be one of the largest in this area, it was stated, and will total approximately 150 tons of refrigerating capacity. Ten zones will be established in the building, with automatic and zone controls to be installed by Johnson Service Co.

Basic machine room equipment will be a Trane "Centra Vac" centrifugal compressor providing chilled water which will be circulated throughout the 10 zones planned in the structure.

The installation area will include not only the business and editorial offices, but also the mechanical and maintenance departments. It is hoped that the major equipment can be delivered to the building in time to assure operation of the system by July 1.

Big New Goodyear Plant Will Be Air Conditioned

PLAINFIELD, N. J.—Plans for the expansion of Goodyear Tire & Rubber Co. tire fabric production were revealed following the award of a contract to Wigton-Abbott Corp. here for the design and construction of a large, air conditioned, windowless manufacturing building to be erected at the Goodyear plant in Cartersville, Ga.

The new structure, which will measure 299 by 280 ft., will feature six large semi-penthouse structures to house the complicated air conditioning equipment necessary to maintain strict temperature control. Construction will get under way immediately, according to recent company reports.

It's Cool In Opa-Locka

MIAMI, Fla.—Completely air conditioned, the new Margaret Ann and Table Supply Food Store recently opened for business at 13931 Service Rd., Opa-Locka.

Extensive Air Conditioning, Refrigeration In Kroger Store

CLEVELAND—Refrigeration and air conditioning are employed extensively in the new Kroger market at Euclid-Green Shopping Center.

The store is completely air conditioned. The meat department is entirely self service with 66 ft. of refrigerated cases. Produce is sold from 30 ft. of refrigerated wall racks and 10 island counters.

In addition, there are self service refrigerated cases for dairy products, frozen fish, and poultry. Soda pop is available ice cold, either in case lots or single bottles from a beverage cooler.

New Market Air Conditioned

CLEVELAND—Complete air conditioning is a feature of the newly-opened Fisher Market at 1814 West 117th St. The market also features extensive use of self-service refrigerated cases in its meat, produce, and dairy, as well as frozen foods departments.

NOW! Exclusively from DEERING THE ONLY ROOM AIR CONDITIONER

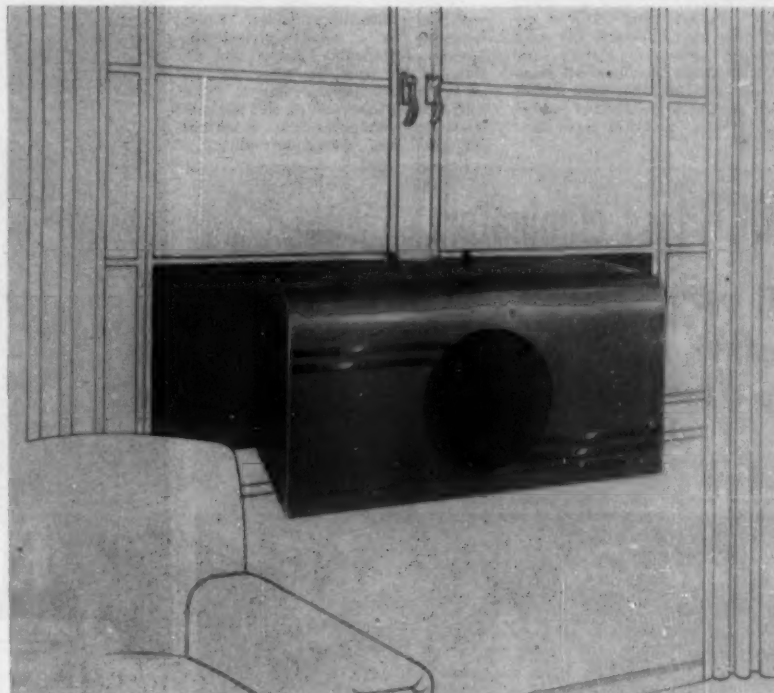
Specifically Designed for CASEMENT WINDOWS

Opening Up a Profitable NEW Market for YOU

AT LAST—The answer to the "casement window problem" in room air conditioning!

AT LAST—You can satisfy the growing public demand for an efficient, simply installed casement window air conditioner.

AT LAST—No matter what line you are now carrying, you can have a truly complete room air conditioner line. . . . More sales to more customers.



Equipped with Copelametic unit. Beautifully designed—Expertly engineered

EASILY INSTALLED

Can be installed in 30 minutes or less by either serviceman or customer. No screws, bolts, or brackets. Just slide-in . . . hook-in . . . plug-in.

Window mullions and muntins not altered, mutilated or destroyed. No drilling, cutting, or filing.

Flush fittings—No wing adapters. No installation kit.

SIMPLE, LOW-COST INSTALLATION FOR EASIER SALES

AVAILABLE IN 1/2 AND 3/4 HP. MODELS

DEERING AIR CONDITIONING CO.
5037 Beech St.
Cincinnati 12, Ohio

ACT NOW to profit in 1952 from a Brand New Dimension in Room Air Conditioning

YES!

I am interested in a franchise for the DEERING casement window room air conditioner. Please rush me complete information.

Name

Company

Position

City Zone State

Mail Today to: Deering Air Conditioning Co.
5037 Beech St., Cincinnati 12, Ohio

HOUSEHOLD REFRIGERATION

Colorful, Animated Displays Highlight Kelvinator '52 Sales Promotion Program



KELVINATOR'S "MAGIC CYCLE" DEMONSTRATION UNIT is a complete, operating household refrigerator system mounted on display panel. Refrigerating coil substitutes for the conventional frozen food chest, for rapid demonstration of the process of frost accumulation and defrosting. Actual refrigerator controls at the display in operation. D. A. Packard (center), Kelvinator household sales manager, points out the frost on the coils to R. H. Davison (left), Buffalo zone sales manager, and J. C. Bonning (right), Kelvinator advertising executive.

DETROIT—Kelvinator has planned extensive use of colorful animated displays, backgrounds, and signs to dramatize at the point of sale its product story for 1952, according to Charles J. Coward, merchandising manager.

"Heavy emphasis has been placed on our major refrigerator improvement, the Magic Cycle self-defrosting feature," Coward said. "The entire display program is possibly the most complete in Kelvinator history, and it helps to make our over-all merchandising campaign for 1952 one of the most carefully coordinated around a single theme that we have employed."

He said one display is an actual refrigerating system mounted on a decorative framework, with a section of refrigerating coil in place of the frozen food chest for demonstration purposes. By turning the control dials on the display, the coil can be made to frost up and then defrost rapidly.

Another is a full-size Kelvinator with a glittering golden finish, mounted on a revolving pedestal, designed for special itinerant use. Instead of the usual condenser up the back, the refrigerator has a panel with lighted tubes which demonstrate the flow of refrigerant during normal operation, and during defrosting."

Artkraft, Baltimore Porcelain Directors Approve Merger Plan

LIMA, Ohio—Merger of Artkraft Mfg. Corp. and Baltimore Porcelain Steel Corp. into Universal Major Elec. Appliances, Inc., a wholly owned subsidiary of Artkraft, has been approved by directors of Artkraft and Baltimore Porcelain Steel.

Stockholders of Artkraft will act on the proposed merger at a special meeting set for March 31. Under the agreement, Universal would also acquire the major appliance business of Landers, Frary & Clark, together with tools, equipment, and inventory.

The transaction calls for Universal to issue one share of common stock for each share of Artkraft common and for each two shares of Baltimore Porcelain Steel common. Artkraft has 1,020,562 common shares outstanding and Baltimore has 945,680.

Universal plans to issue in exchange for Artkraft's 51,775 shares of 6% cumulative convertible preferred, \$5 par, a Series "B" 20-year 6% cumulative convertible income debentures on the basis of \$5 face amount of debentures for each share of convertible preferred.

Holders of Baltimore Porcelain's 50,428 shares of 7% cumulative convertible preferred stock, \$5 par, would also get Series "B" debentures on the basis of \$5 face amount of debentures for each preferred share.

Universal would also issue to Landers, Frary & Clark a total of \$1,100,000 of Series "A" debentures, 10-year 4% notes, and 5-year 4% notes.

Western Auto Dealers See 4 New Wizard Refrigerators Featuring Automatic Defrost, Full-Width Freezers

KANSAS CITY, Mo.—A 1952 line of four all-new "Wizard" refrigerators are featured by Western Auto Supply Co. at special dealer "white goods" shows being held during March in each of the firm's 16 divisions.

Features added to the line for the first time include "zero-cold," fully enclosed, full-width freezer chests; heater-type automatic defrosting; heated butter-conditioners; door shelves; and interior "ice-tone" color and crispers.

Two of the new refrigerators are 10-cu. ft. models and two are 8-cu. ft. units. Cabinets were designed for the firm by Jack Morgan, Chicago industrial designer.

Both 8-ft. refrigerators have 42-lb. frozen food capacity, both 10-ft. models, 52½ lbs. All feature ice trays with quick-release devices, newest acid-resistant porcelain interior finish on top, sides, and back as well as the bottom, and four-leg levelers. All are powered by Tecumseh units.

The "Deluxe 10" Wizard is 10.1 cu. ft. in area and has 19.8 sq. ft. of shelf space. Its deep meat tray is insulated and adjustable for summer-winter humidity control.

It has a top shelf with two fold-away sections for extra tall-bottle room and a fourth shelf which slides in and out.

Associate dealer price is \$319.95 in the northern part of the country; \$329.95 below the Mason-Dixon line.

The other 10-ft. Wizard, the "Master 10" has 19.7 sq. ft. of shelf area. Associate dealer price in the north



is \$274.95; below the Mason-Dixon line, \$284.95.

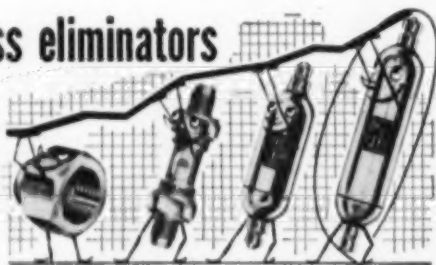
Except for size, the features of the "Master 8" are the same as those of the "Master 10." It has an area of 8.7 cu. ft., 16.4 sq. ft. of shelf area, and a 20-qt., full-width vegetable crisper. In the northern part of the country, the associate dealer price is \$239.95; below the Mason-Dixon line, \$249.95.

The Wizard "Special 8" has the 42-lb., full-width freezer, which is said to average as cold as zero, two ice trays, and a fruit bin at the bottom in the place of the crisper. Its area is 8.3 cu. ft., with 12 sq. ft. of shelf area.

Associate dealer price in the northern part of the country is \$194.95; below the Mason-Dixon line, \$199.95.

REMCO loss eliminators

pull up
profits
for you!



FROST-TITE PLATE NUTS
with tapered frost-relief
slits. No more losses from
ice-caps "weeping" out.

2-2-SEE LIQUID INDICATOR
TUBE, 2-2 to see flow with
new "FLO-INDICATOR" to
indicate variations of flow.

STANDARD DUTY DRIERS
The lowest cost, most efficient
moisture eliminator on the
market.



Now 100% improved and 100% foolproof! The New FIBERGLAS DEPTH FILTER provides vastly increased filtering capacity to take care of the dirtiest jobs—improved efficiency for even the smallest capillary jobs.

The MOLDED REMCAL DRYING ELEMENT provides increased moisture-absorbing capacity and improved efficiency even at liquid line temperatures as high as 150° F. and dew point temperatures as low as -80° F. Improved design also provides increased flow area—pressure drop and premature clogging or plugging are entirely eliminated.

ATTENTION! MANUFACTURERS!

Try Remco Standard Duty Driers for real low-cost efficiency. Spun ends, with either Molded Remcal or Silica Gel. ½ thru 1½ HP.



Carried in stock by
Leading Wholesalers

Send for Literature and Prices



REYNOLDS

gives you a

complete fabricating service for ALUMINUM REFRIGERATOR PARTS



Aluminum evaporators . . . bright, color-anodized aluminum refrigerator shelving . . . door trays . . . aluminum crisper pans . . . and other components for refrigerators are made by Reynolds Aluminum Fabricating Service. Reynolds facilities are geared for mass production of these items to quality standards exceeding industry requirements. Reynolds will be glad to work with you on your present needs within limits of government aluminum allocation, or on development work for post-emergency application. Contact your nearest Reynolds office listed under "Aluminum" in your classified telephone directory, or write Reynolds Metals Company, Parts Division, 2053 South 9th Street, Louisville 1, Kentucky.



REYNOLDS ALUMINUM FABRICATING SERVICE

BLANKING • EMBOSING • STAMPING • DRAWING • RIVETING • FORMING • ROLL SHAPING • TUBE BENDING • WELDING • FINISHING

Husbands Make the Difference**'Working Wives' Cooking School Nets Appliance Dealer Quadruple Sales**

TEMPLE, Tex.—Presenting a special cooking school for "working girls" and requiring each to present as their admission ticket one husband, got maximum returns for Robert Stavino, head of Modern Hardware & Appliance Co., located here.

The working girls cooking school was held in connection with a two-day event, presented in three separate sessions. The dealer limited the first presentation to store customers, all of whom were invited by direct-mail invitation.

The second presentation was open to the public and was advertised with half a dozen quarter-page newspaper advertisements. The third was limited to "working housewives" and was given during the evening hours, so that each could bring her husband along.

On the stage of the local auditorium, a Frigidaire home economist prepared a complete meal, gave specialized instruction on wrapping foods for successful home freezing, and produced a number of specialty food items, including hot baked bread, which were given to the audience.

By carefully selecting the audience, the cooking school promotion brought far better results than usual, according to Stavino. When final results were tabulated, it was found that the evening working girls presentation

had sold almost four times as many ranges, refrigerators, automatic washers, freezers, and other similar appliances than either one of the other two sessions.

"Checking results closely, we found that the all-important difference was the presence of husbands," Stavino said.

"Women who cajoled their family heads into coming along, were able to make up their minds to buy and get assent from the husband on the spot—with the result that we sold many more major appliances directly from the presentation, than we ever have through previous cooking schools."

Special emphasis in all three of the food clinic presentations was placed on the preparation of foods for home freezing to boost home freezer volume. Each event was conducted by Miss Annie Dean, Frigidaire home economist, and all foods prepared were distributed among the guests.

Prizes, which showed equal appeal to husbands and housewives, included an electric range, grand prize; a food mixer, second prize; a table model radio, third prize; aluminumware set, fourth prize; and a 50-piece dinner set as fifth prize. All of the working girls who signed registration cards, are being individually followed up, and percentage of sales per call has been outstandingly high, according to Stavino.

Whirlpool Will Re-Enter Markets In Mid-Summer

ST. JOSEPH, Mich. — Whirlpool Corp., manufacturer of home laundry equipment, will begin to re-enter, by mid-summer, the consumer markets it was obliged to withdraw from 12 months ago due to material shortages, it was announced by John M. Crouse, Whirlpool sales manager.

A 60-day survey of local media in each of the markets to be reopened will be completed early in April. This will be the advertising and promotional base upon which the corporation will re-introduce its automatic washing machines, driers, and ironers.

During the period of curtailed production, Whirlpool has continued national advertising in a limited number of consumer publications.

The plan for increased production of Whirlpool products is based on two factors, Crouse stated:

1. Anticipated availability of raw materials and component parts.
2. Reasonable certainty of increased production facilities.

Whiteacre Heads Wesco Branch In Manchester

MANCHESTER, N. H.—Appointment of C. H. Whiteacre as manager of the Manchester, N. H. branch of the Westinghouse Electric Supply Co. was announced recently in Boston by E. V. Wetmore, New England district manager.

Whiteacre, formerly the company's district stores manager in Boston, succeeds W. A. Rossiter, who is leaving the company.

INSIDE DOPE
by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

The boys hurried to the address listed, and the Scout presented the wallet to its rightful owner. Pleased at the boy's honesty, the man offered him two dollars as a reward.

"No, thank you, sir. I'm a Boy Scout, and have to do a good deed every day."

Smiling broadly, the owner began to stuff the bills back into his pants pocket.

"Mister," piped up the second boy, "I'm not a Scout!"

Out of the Mouths, etc.

Quite an event it was for the Nodnudel family. Mr. Nodnudel's boss was to be a dinner guest in their modest home. While Mrs. Nodnudel busied herself with the roast, Shirley set the table.

Everybody was seated properly around the festive board when Mrs. Nodnudel, flushed but proud, entered with a prime roast of beef. At once she spied a flaw in the arrangements.

"Shirley," she panicked, "how could you forget to put silverware at Mr. Bigdome's place?"

"Didn't think he'd use it. Daddy always says he eats like a horse!"

Ask Me Another

Sandra admitted that, at school, she often had to copy from the girl next to her. "I can't see the blackboard," she excused herself.

Very next day mother took her to an oculist. The medico found that the girl's eyes were better than normal.

"How is it you can't see the blackboard?" he probed.

"Tell you why, mister. The boy sitting in front of me is too tall."

Reporter

"Let's play house," sugared Barbara.

"Okay," agreed Johnnie, home from kindergarten.

"Who'll be the boss?" began Barbara. "Somebody has to, you know. Who runs things in your house?"

"My daddy does. He runs the vacuum cleaner, the lawn mower, and the errands for Mommie."

Party Patter

"If you're offered a second piece of cake at the party," Stephen's mother instructed, "be polite and refuse it. Act like your father does."

When he returned home, Stephen's mama queried:

"Did you take a second helping of cake, or did you do like I told you?"

"I didn't take it, Mom. You told me to act like Daddy, so I said, 'Take that damned gunk out of my sight!'"

"You're too little to eat so much," admonished Mrs. Plupfer, at her little daughter's birthday party.

"Ma'am," returned the stuffed-to-the-gills boy, "I'm bigger 'n I look from the outside."

Grounds for Alarm

Four-years-old Marty Burke shied away when a collie licked his hand.

"He won't bite, Marty," soothed the collie's owner.

"Well, he's tasting me," shrieked the boy.

They'll Never Get Texas Into the United Nations

Texas' all-consuming pride is more than legendary. The following tale illustrates how they feel about the Lone Star State.

A group of conventioners were assembled in a Chicago hotel. Two gentlemen from Texas were introduced to a man from Massachusetts.

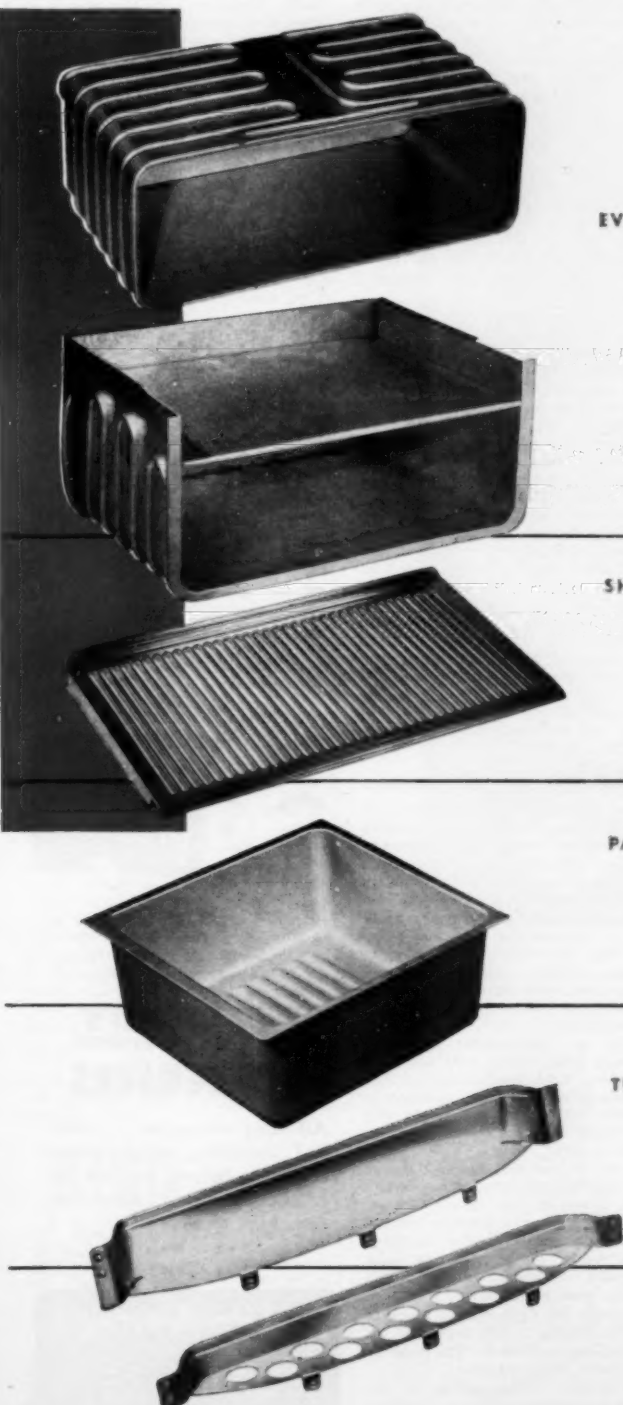
"And what state do you hail from?"

"That question isn't necessary," interjected the second Texan. "If a man comes from Texas, he'll tell you; and if he doesn't, you shouldn't humiliate him."

Postscripts

"Does your husband remember to give you a present on your anniversary?"

"I'll say he does. I remind him about it in June, and again in January. Get a present each time that way."

**EVAPORATORS**

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One-piece, color-anodized aluminum shelving made by Reynolds provides rigid construction plus a corrosion-proof and chip-proof finish with eye-catching consumer appeal.

PANS

Crisper pans in bright, anodized aluminum offer crackproof, wear-resistant durability.

TRAYS

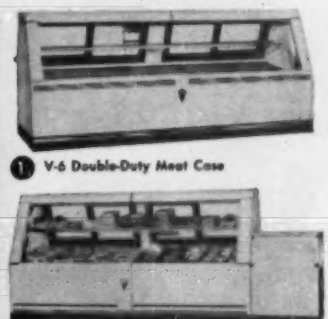
Bottle, dairy, egg and utility trays are produced by Reynolds with color-anodized trim to manufacturer specifications.

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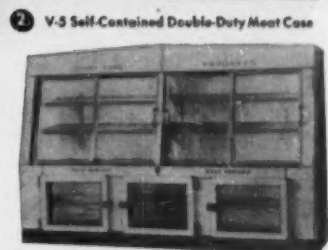
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7500 Wilson Ave., Kansas City 3, Mo.

Island Display Cases Expected To Give Additional Boost To Already Booming Sales of Frozen Citrus Concentrates

Frozen Foods Convention Speaker Suggests Food Distributor Salesmen 'Get Cabinets Out'



SOMETHING DIFFERENT in the way of a merchandising fixture for quick frozen foods is this dry ice refrigerated, open-top, portable merchandising table for mass display of frozen citrus concentrates, now being offered by Wm. Melish Harris & Associates. The table will be used best (and probably only) for mass displays in heavy traffic aisles of big-volume stores on weekends. The display units have a usable capacity of about 5½ cu. ft., holding 40 doz. 6-oz. cans of frozen citrus concentrate. Two dry ice cartridges of 25 lbs. each are used daily, at a cost of around \$2 a day. It is claimed that a temperature rise of less than 3° F. is found over 24 hours. Some proponents of this fixture say that it may have a use also in introducing smaller stores to frozen foods, leading to the purchase later of a larger cabinet.



SPOT FREEZER cabinet recently introduced by Wilson Refrigeration, Inc., and shown at the National Frozen Foods Industry convention is designed specifically as a merchandiser for frozen juice concentrates. "Island" design makes the cabinet accessible from any side, and its over-all height of 40 in. brings products on display within tempting reach of shopper. Designated as model FM-10, the cabinet displays eight full rows of 8-oz. cans and holds more than 700. It takes up a floor area of only 30½ by 44 in. This case is mechanically refrigerated, the cabinet interior being divided by plate evaporators and the walls encircled by wrap-around coils. Combination is claimed to keep even top row of cans frozen hard at all times.

There was much talk at the recent National Frozen Foods Industry convention at Chicago about "breaking the bottleneck in frozen food merchandising."

That "bottleneck" is defined as the lack of adequate display cabinet space in retail food markets.

Some elements in the industry have voiced the opinion that frozen food merchandising cabinets have not moved into the retail food stores quickly enough or in large enough volume through the selling efforts of commercial refrigeration dealers.

At the convention there was presented a formal paper describing a plan for the sale of frozen food display cabinets through frozen food wholesalers. This was followed by a lengthy discussion of plans for the selling and leasing of cabinets by such wholesalers.

By no means is the industry wholeheartedly behind such plans. There was considerable opposition to such plans voiced by both frozen food wholesalers and packers. Leaders of both wholesaler and packer groups who spoke before a press conference at the convention opening were unanimous in voicing their disapproval of cabinet sales by wholesalers.

To one observer it seemed that one of the major points of contention in such plans—would the small cabinet that the wholesaler would sell or rent be adequate enough to do any kind of a job—was overlooked by those who discussed it.

In presenting this material on the subject of frozen food retail merchandising cabinets gathered at the convention, *Air Conditioning & Refrigeration News* is taking no sides, but merely reports what was said, so that all interested parties can know current thinking on the subject.

By James Laundergan, The Lonergan Mfg. Co., Albion, Mich.*

The cabinet bottleneck in the frozen food industry is a problem of equipment manufacturers, packers, and distributors. It is something that, during the past five years, has been an important factor. But figuratively speaking it's like Mark Twain's remark about the weather—everyone talks about it but no one is doing anything about it.

This cabinet bottleneck can only be broken by complete cooperation of the equipment manufacturers, frozen food packers and distributors, and a down to earth educational—merchandising—selling and financing plan directed to the retail food outlets.

To review what has happened since 1945:

First: The equipment manufacturer. Immediately following the war the equipment manufacturer found a tremendous market for equipment. New equipment was needed for replacement of that which had worn out during the war. New ideas for merchandising meats, dairy products, ice cream, and frozen food meant new engineering design and production. Through 1949 steel, copper, compressors, and other component parts were hard to get. By 1950, commercial refrigeration equipment for the frozen food industry as well as those of other industries was ready to sell—but the Korean war again caused restrictions which prevented manufacturers from going ahead with many of their plans.

We are now to 1952—yes, there is still a war in Korea but the frozen food cabinets you need to start to break the bottleneck in your industry are available.

WHERE CABINETS ARE NEEDED

Now let's look at your industry. Since the war, retail frozen food sales have increased threefold. The growth has been phenomenal, but it has not been without headaches. The packers have had new processing plants and storage facilities to build, new problems of transporting and warehousing. The distributor needed more storage, more equipment, more trucks and more retail route men. All this has taken time, planning, and financing.

From all indications, a billion dollars in retail frozen food sales will be made in 1952. Predictions are that this will increase to over 2 billion in the next five years—but to do this job, frozen food cabinets must be placed in retail outlets.

A recent national survey shows there are 495,400 retail food outlets of all types in the United States. Only 55% or approximately 220,000 stores have facilities for handling frozen foods. Many of these have antiquated equipment—about 50,000 cabinets need replacing.

A survey of eight major markets showed cabinets in 90% and 100% of chain and supermarkets. The average was from 1 to 4 cabinets.

Independent retail stores in the same markets averaged 1 to 1½ cabi-

nets—but in several major markets most independents did not sell frozen foods. Example: in Memphis only 35%; in Cincinnati, 40%; in Atlanta, 50% of the independent food stores had cabinets. Some distributor is missing sales in these markets. But if you are a distributor, I suggest you make a similar survey—you may be surprised at what you are missing.

Let's talk about the bottleneck—how can more cabinets be sold? I think, Mr. Distributor, it is up to you to do this job in your own community.

It has been proven that it can be done. Minute Maid—Snow Crop—did it on concentrates with small cabinets. Honor Brand opened new accounts by offering an 8-cu. ft. food chest type cabinet at a price the grocer could not afford to turn down. Results were—more sales. The grocer became sold because he sold more frozen food. In most cases he increased his business to a point where more cabinet space was needed to take care of his sales.

There is a reason you can do a better job of selling cabinets than the store equipment distributor. Your men know the grocer's problems. They know the amount of space he has available for a cabinet. They

(Concluded on next page)

*Address presented before the annual meeting of the National Wholesale Frozen Foods Distributors Association, March 3-6 in Chicago.



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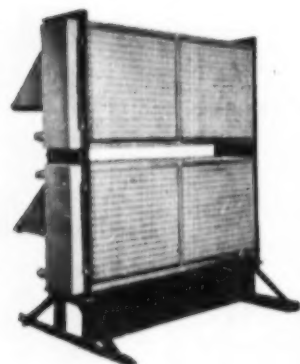
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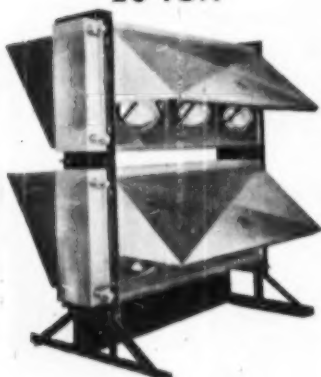
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UNICON
by **KRAMER**

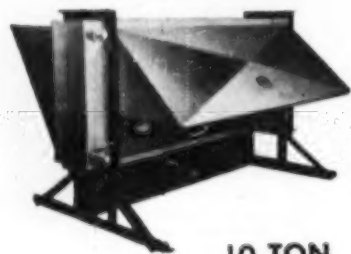
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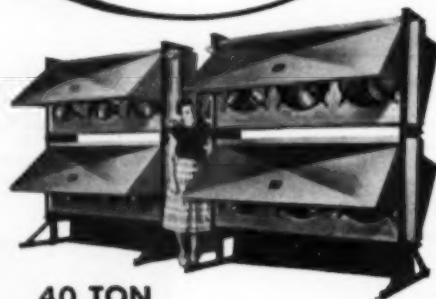
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Store Cabinets--

(Concluded from preceding page.)
know his financial situation. They call him by his first name.

It isn't hard to get in the cabinet business. There are over 30 manufacturers. Most of them offer three sizes of open glass front frozen food cabinets in 8 to 12, 13 to 16, and 18 to 20-cu. ft. capacities.

These will range in length from 4 to 8 linear feet, suitable to fit any space. Your costs are from \$350 to \$800. Chest-type cabinets are even lower in price—from \$200 to \$500.

Most companies have warehouses throughout the country. It is not necessary to invest too much in inventory.

To set up a cabinet sales plan, arrangements can be made through your local bank. They will be glad to work out down payment terms according to the price you set so your men can carry a rate chart with them to quote prices.

Arrangements should also be made for refrigeration service if you do not have your own service organization. This is available in all cities and covers service during the first year. Most service companies can deliver the cabinet for you. Prices will vary according to the size of equipment and distance hauled.

Remember the commission for your men. This should be figured at 10% of grocers' prices. Every man likes to make extra money—make it interesting to him. He'll do a better job. Here's an example of what you can do:

Your cost—cabinet	\$400.00
Delivery and first year service	25.00
Commission to salesman	44.50

Cash price to grocer . . . \$469.50

The profit to you on the first fill is on approximately 400 frozen food packages.

I do not want to give the impression that local store equipment distributors cannot be helpful in breaking the cabinet bottleneck. The difficulty seems to be in working out an agreement between the equipment and frozen food distributor that will work. I believe the equipment manufacturer can help here. If a working agreement can be made—good—but I doubt if the same results will be obtained as those you will get through your own organization efforts.

The equipment manufacturer should work with you in setting up a sales plan for your men. He should hold meetings and make calls with your men. It's a selling job and hard work but will bring results.

The packer who has national distribution should offer all his frozen food distributors a cabinet plan. This can be worked out with equipment manufacturers, and national finance companies are ready to cooperate.

Regardless of who sets up the plan, the responsibility for results is up to the distributor. If his cabinet sale potential is good, a separate cabinet sales force might be the answer for fast results. Let the route salesman get the prospects—the cabinet salesman close the sale on a split commission basis.

The sales of frozen food cabinets are a part of your business just as the ice cream manufacturer has made ice cream cabinet sales his. Your increase of sales will result from more cabinet sales because without additional cabinets you have no potential of increasing sales.

You have a great sales story to tell the grocer. Mrs. Homemaker likes frozen foods—she wants to buy frozen food—where she buys frozen food she will buy her other grocery items. Mr. Grocer better have the frozen foods she wants.

Yes, the cabinet bottleneck can be broken—if the equipment manufacturer, packer, and frozen food distributor will each do their part in working out a cabinet deal—reasonably priced—properly financed and with a planned merchandising appeal that will make it easy for the food retailer to buy.

Perils and Problems In Sales of Cabinets by Food Wholesalers Pointed Up In Discussions

Stiffer Down Payments

The question was raised as to the kind of terms that banks might approve on sales of cabinets by frozen food wholesalers. Banker Floyd A. Crispin of Girard Trust Corn Exchange Bank, Philadelphia, who had been a panel speaker on financing problems in the frozen food industry, expressed the opinion that banks would probably want at least 20% down, but would permit up to 30 months for the balance.

The banker also indicated that such financing would have to be on a "with recourse" basis. It was pointed out that on cabinets which could qualify as "commercial cabinets" the commercial refrigeration can, and often does sell on a 10% down basis, but generally wants the balance within 24 months.

How Do You Stand Cost?

Ice cream producers, it was pointed out, have for many years placed cabinets in retail shops on a rental or lease basis. One wholesaler advocated the application of this idea in the frozen food industry for the reason

that "the food wholesaler would then keep title to the cabinet and thus 'hold a bludgeon' over the head of a retailer to make him display only the wholesalers particular line of frozen foods."

As described by a representative of an equipment manufacturer making ice cream cabinets, in this practice there is no direct charge to retailers for leasing such cabinets, but the cost of doing this is included in the price of each gallon of ice cream.

Some frozen food wholesalers were quick to point out that they are operating on a very low profit margin now, with prices very competitive, and that there won't be enough margin for such added expense.

Who's To Service Them?

"Who would service cabinets put out on a rental basis?" it was asked. It was pointed out that ice cream companies have their own refrigeration service departments, built over many years of activity along such lines. Frozen food wholesalers would most likely have to contract with an independent refrigeration service firm for such work, and pay for it.

Small Models Only

All plans discussed at the frozen food distributors meeting for sale of cabinets by distributors involved small, low cost cabinets, mostly around the 8-cu. ft. capacity size—and not equipped with any merchandising accessories. The larger types of display and merchandising equipment—which many believe to be the only solution for adequate merchandising of frozen foods in retail stores—did not enter into the discussion.

Legal Blocks Increase

One wholesaler pointed out that in California and some other areas there are laws that do not permit the renting or leasing of cabinets by firms not in the refrigeration business, and that there is agitation in many other localities for such laws.

Lease by Equipment Mfr.

A new trend in putting out cabinets which has had a limited trial thus far is for the refrigeration equipment manufacturer (lessor) to lease equipment on a 10-year basis to the frozen food wholesaler (lessee). The wholesaler in turn would put the cabinet in a retail store and pass the rental charge on to the food retailer.

This type of leasing arrangement by the equipment manufacturer has several legal complications. Because

of present tax laws and rulings, the frozen food wholesaler cannot get title to the cabinet—ever. The banker said that the banks would loan no money to a distributor to help finance such a plan if the food distributor did not get title to the cabinets.

It is believed that because of legal complications that the 10-year lease arrangement must continue to its end with the same cabinet.

"Then what happens," said one wholesaler, "if your competitor comes along after 2 years have gone by and has a new and better cabinet and tells the grocer 'throw that back number out and put this one in.'"

A test case on this point may come up soon as one manufacturer who has several hundred cabinets out on a 7-year lease plan is now in his fourth year of the plan and wants to change the deal.

Few Repossessions Cited

In the sale of cabinets by frozen food wholesalers there has been very little history of repossession, it was testified. One case was cited in which more than 600 cabinets were put out on such a basis, with only 2 repossessions cited.

Just before the session closed a veteran distributor declared, "whatever you do, don't get caught giving away your profit on a cabinet operation."

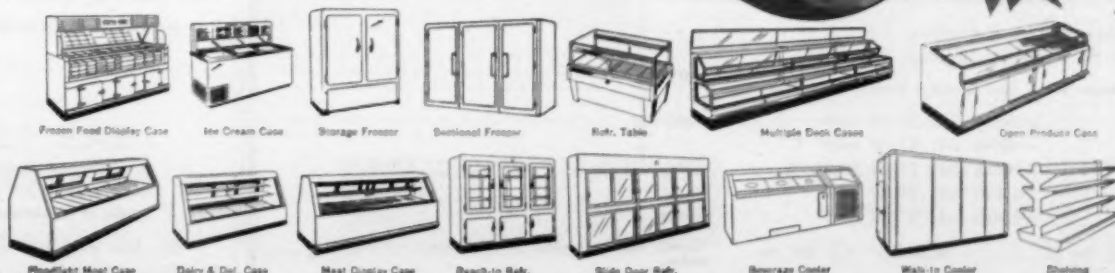
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Watch That Sunday Punch

SPORTS-LOVING People, and they are legion in the refrigeration business, have a wide and varied interest in such events as the ancient and frequently honorable art of boxing.

Thanks to the semi-weekly telecasts of fights, an increasing number are joining the ranks of fight fans. Their interest is largely that of the so-called civilized man who has the suppressed desire to settle many problems by letting go with his "Sunday punch."

Why call it "Sunday punch" anyway? Is it because in times past one wore his best on Sunday? Or is it merely because all sorts of things seem to happen then?

Like the time we noticed the drain of the bathroom basin was so sluggish that obviously it was clogged. It's really a simple thing to fix. A few turns of a wrench . . . no need to call a plumber at Sunday rates.

Just a few turns of the wrench and. . . !! We knew the trap was old, but why did the clean-out plug decide to break just then? Sunday, of course. No hardware stores open.

And, during a recent cold snap when streets were impassably slippery with snow and ice, the fuel tank for the oil burner went dry. Guess which morning that was.

Mere isolated instances, scoffers will say. But how about the time the strike on our old dependable refrigerator broke? That was on Sunday, too. It was several months later that the replacement strike broke also, but fortunately we were home, it being Sunday.

First time it broke our solution for keeping the door shut was hardly ingenious, although direct. Merely tied a rope around the box. And before a couple hours had passed, the whole family could have qualified as A.B.'s on a square-rigged clipper ship. Never saw such a variety of knots.

As far as we're concerned, the term "Sunday punch" did not have its origin in boxing but in the perversity of inanimate objects which seem to delight in letting go with a "haymaker" every Sunday.

Really, the only way to get through this day, which luckily comes but once a week, is to prepare your own punch. We've been asked so many times for our private recipe that we think you may find it helpful, too:

2 bottles Old Corncrib
2 cans lighter fluid
1 cup powdered graphite
12 oz. Noerf-26
Assorted "O" rings

Mix ingredients in glass-lined vessel, carefully sprinkling grated "O" rings on top. Caution: Avoid spilling on hands or clothing.

By the way it's also perfect for cleaning out drains, has a fair B.t.u. rating, and makes an excellent liquid solder.

Commercial Refrigeration



ICE CREAM storage room at Howard Johnson plant in the Bronx, showing three Kramer Thermobank units.



REAR of re- evaporator, showing piping to various boxes. This re- evaporator serves all four systems.

Ice Cream Plant Expansion Includes 4 Storage Rooms Using Thermobank Units

TRENTON, N. J.—The Bronx, N. Y., ice cream plant of Howard Johnson has expanded its manufacturing facilities with the addition of four large refrigerated storage rooms, all equipped with completely automatic defrosting ammonia equipment.

The low side refrigeration equipment consists of Kramer Ammonia Thermobank, manufactured by the Kramer Trenton Co.

To provide the necessary compressor capacity, a Creamery Package six cylinder, 6 $\frac{1}{2}$ -in. by 5-in. booster compressor was added to the existing ammonia compressor plant of seven compressors of various sizes and makes.

With Kramer's installation of the automatic ammonia Thermobank, the new storage rooms will maintain any desired temperature down to -20° F. The installation consists of four systems, each serving a separate room. System No. 1 is in a 0° F. ice cream novelty room and System No. 2 is in a 0° F. anteroom. Each of these rooms is equipped with a Thermobank combination consisting of three evaporators with a total capacity of 4 tons of refrigeration.

System No. 3, installed in a fruit juice storage room maintained at

34° F., consists of one combination using two evaporators that total 4 $\frac{1}{2}$ tons of refrigeration.

System No. 4 is used in the pie freezer room, maintained at 0° F. One ammonia Thermobank combination is used in this room and has three evaporators totaling 10 tons of refrigeration.

Each system has its own defrosting timer. Timers are set so that one system will defrost while the other three systems remain in normal operation. Only one Thermobank re- evaporator is used for all four systems.

Because of the rapidity of defrost, there is no appreciable temperature change in the room during the defrost operation.

Dietl & Kraft Appointed Worthington Distributor

NEWARK, N. J.—Dietl & Kraft, refrigeration sales and service firm here, has announced that it has recently been appointed distributor of Worthington air conditioning and refrigeration equipment for Essex and Union counties. The firm formerly handled the Carrier line.

Viking Tells How To Set Up Sales Manual As Reference for Outside Salesmen

CLEVELAND—Here's how to prepare an 11-section salesman's manual which "provides in one compact, easy-to-use package all of the background information that might be required on an initial sales call," according to Marvin Hertz of Allied Advertising Agency.

Writing in *Viking News and Views*, published by Viking Air Conditioning Corp., Hertz pointed out that the manual "is not intended as an A to Z 'chalk-talk' sales presentation. Neither is it a crutch for a poor sales effort or a substitute for thorough knowledge of the business. Its intended use is as a reference; a support for the salesman's claims."

Good binders for the manual, he indicated, are the letter-size, three-ring or multiple-ring loose-leaf types. Those with transparent plastic pages into which material can be inserted without gluing are available at any stationery store, he noted.

HOW TO SET UP MANUAL

Hertz said the manual should be assembled in 11 sections separated by plainly-marked index-inserts so the salesman can turn to the section desired without fumbling or wasting time. The sections should be set up as follows, he advised:

1. History of the company and a chronological record of its growth typed neatly on white paper to help "establish your company with the prospective customer as a 'going' concern."

2. Photographs of management and personnel with brief, typed background information.

3. Photographs of shop or plant—exteriors with trucks in view; interiors showing displays, equipment, and work facilities.

SHOW PROSPECT BENEFITS

4. Benefits to the prospect of employing the services of the organization. "Show in pictures, diagrams, and charts the gains in comfort, economy, cleanliness, health, labor-saving, and convenience that you can bring your customers."

5. Demonstration of procedure in engineering a job. "This can be done with sample forms such as a National Warm Air Heating Survey; pictures of one of your men inspecting a plant for survey purposes."

6. Before-and-after pictures of installations to "help the prospective buyer visualize the improvements that will result. Diagrams should be clear and plainly labeled in simple language to avoid losing the interest of the listener."

7. Products and services offered by the company. Use manufacturers' illustrated literature here.

8. Prices, terms, and means of arranging financing. "Literature obtained from the bank or finance company should be included. A chart should be obtained from these sources to show the size of the required down payment and the monthly payments."

9. Testimonials from former customers, newspaper clippings of contracted jobs with prestige, such as churches, public buildings, housing projects, and awards to the company.

10. Material to show the client how he is protected by contracts, guarantees, warranties, heating codes, municipal inspections, seals, and trade association pledges.

11. Ample supply of sales literature, order blanks, prospect cards, and business cards.

Self-Serve Freezer Sells Home-Made Ice Cream

HAMBURG, N. Y.—Biehler's has installed a new self-service ice cream merchandising cabinet which has actually produced an increase in sale of the firm's home-made ice cream while also saving the time of clerks.

The store operates a large fountain. Under the old system, clerks had to interrupt their fountain service activities to package up the bulk ice cream while customers waited.

Now the ice cream is put up ahead of time in Biehler's own pint and quart packages, placed in the merchandising cabinet according to flavor, and the customers help themselves. A sign atop the freezer indicates exactly what flavors are carried, saving the customer the trouble of asking a clerk.

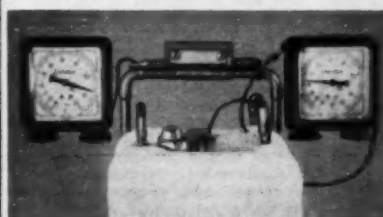
Management finds that ice cream sales have increased since the self-service cabinet was installed near the cashier's counter. The new system also permits fountain help to work uninterrupted by time-consuming orders for bulk ice cream.



Liquid-charged expansion valves give you positive bulb control IN ANY POSITION



Here's Proof



Dramatic proof of the efficiency of A-P Liquid-Charge. In the unit pictured above, there is a 54-degree temperature difference between valve and bulb, and the valve is mounted upside down! Despite these conditions, the bulb provides perfect control. Unusual? Yes; but typical of the efficiency and dependability you can expect from A-P Liquid-Charged Valves!

Here's an all-purpose valve serving every requirement . . . low temperature units, commercial applications, air conditioning. Select the capacity you need, install . . . and enjoy day-in, day-out dependable service.

Unusual applications are no problem when you install an A-P Liquid-Charged Expansion Valve. Install it upside down . . . at any angle . . . even lower than the bulb — in fact, in absolutely any required position, and in any ambient temperature. You are sure to get positive, precise control.

Manufactured to the highest standards of quality, every A-P valve has a rugged, leakproof, forged brass body and corrosion-resistant, stainless steel needle and seat. Power element is liquid-charged and all parts are silver soldered for durability. Yes, quality construction throughout to assure years of economical, trouble-free service.

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Commercial Refrigeration

Low Side Plays Vital Role

Success of System Measured by Evaporator Performance,
So Its Sizing and Selection Are Most Important

SAN ANTONIO—"Low side equipment, lacking the motion, the wide range of sounds ranging from the 'thump' of the ponderous slow speed compressors to the whine of the high speed centrifugal, does not command attention, but from the standpoint of performance, the evaporator is the most important part of the system, for the work and the performance of every other part is measured in the success of the evaporator."

This point was emphasized by F. B. Frazee, chief engineer of Calcasieu Lumber Co.'s air conditioning department (Austin, Tex. distributor) in a discussion of "Evaporator Selection" before the Southwest Regional REE group.

What Are Factors In Selection?

In his talk, Frazee reviewed the development of coils and outlined the basic factors involved in the selection of low sides, including bare pipe coils, plates, and finned tubes.

With bare pipe "the rate at which heat may be picked up or dissipated by a coil is contingent upon its transfer area, the temperature gradient, and the thermal conductivity," he explained.

This is expressed by the formula: $Q = KAT$ where

Q = B.t.u./hr.
 K = Conductivity
 A = Area
 T = Temperature difference

The K factor of conductivity with bare copper pipe will vary, depending on whether it's exposed to gravity air circulation or submerged in a bath. In air with gravity circulation the K factor is 1.6, explained Frazee.

Submerged in a 15° to 35° bath will vary as follows:

	TXV	Flooded
No agitation	18	25
100 f.p.m.	27	38
200 f.p.m.	30	42

Note that the K factor is larger (thus resulting in an increase in heat transfer) with a flooded coil as compared with a "dry" coil controlled by a thermostatic expansion valve. Likewise, the K factor increases with agitation of the bath.

Because these calculations are based on the amount of surface involved (the "A" or area of the formula given above), it is also necessary to know the equivalent surface area of bare pipe. The surface area will depend on both the outside diameter of the pipe and its length.

The surface area in linear ft. for various copper pipe sizes was given by Frazee as follows:

O.D. Pipe Size	Sq. Ft. Surface
1/2 in.	.098
3/4 in.	.131
1 in.	.164
1 1/4 in.	.229
1 1/2 in.	.295
1 3/4 in.	.425
2 in.	.558

In working out a calculation, such as given here, the total surface area required of a coil is first determined. From this, knowing also the diameter of the pipe to be used, the length can be worked out from the table given above.

As an example, he said, assume there is a small freezer which measures 6 ft. by 2 ft. 5 in. by 4 ft. and has a load of 1,500 B.t.u./hr. The bare pipe coil is to be 1/2-in. copper tubing and bonded to the shell.

Using the formula $Q = KAT$, we have:

$K = 1.6$ (the factor for gravity air circulation);

$A = .164L$ (the surface area per linear foot for 1/2 in. tubing multiplied by L, the unknown length);

$T = 15$ (temperature difference);
 $Q = 1,500$ (B.t.u./hr. load on the freezer).

Substituting these values in the formula gives us:

$$1.6 \times .164L \times 15 = 1,500$$

$$3.9L = 1,500$$

$$L = 387 \text{ ft.}$$

Therefore, in this case, 387 ft. of 1/2-in. copper tubing would be required for the freezer.

If the same load (1,500 B.t.u./hr.) was required on a wet storage application, the K factor of 18 should be used, Frazee said. (This assumes there is no mechanical agitation and that a thermostatic expansion valve system is employed.)

Then the calculation would become:

$$18 \times .164L \times 15 = 1,500$$

$$44.3L = 1,500$$

$$L = 34 \text{ ft.}$$

"However, 34 ft. of tubing does not give the best distribution, but if we substitute 1/2-in. tubing for the 1/2-in. size, 43 ft. would be required," Frazee explained. "Or we could use 3/4-in. tubing, in which case we'd need 57 ft."

How To Choose Plate Coils

Plate coils, of course, could be used in either the freezer or the wet storage applications mentioned here. With gravity air, the K factor of such coils can range from 2.0 to 2.5, he said, but in this case he recommends using 1.6 as the K factor.

It must also be remembered in determining sizes of plate coils that both of the flat surfaces supply heat transfer. The edges can be ignored.

In the formula, then, the area is doubled. The equation reads:

$$1.6 \times 2A \times 15 = 1,500$$

$$48A = 1,500$$

$$A = 32 \text{ sq. ft.}$$

The 32-sq. ft. area refers to just one side of the plate, and actually 64 sq. ft. of plate surface would be required. This can be obtained by using four plates each measuring 2 ft. by 4 ft. in size.

Where plate coils are submerged, Frazee suggested using a K factor of 12 when there is no agitation of the bath; 18 to 30 with agitation, and 15 when the plates are iced.

When finned coils are employed instead of bare pipe, the surface of the fins must also be taken into consideration in sizing a coil, pointed out Frazee.

"To determine the surface of a finned coil, you must add to the 'prime' surface (the tube) twice the 'secondary' surface (the fin area) in square feet per linear foot of coil. We use twice the fin area because each side is exposed to the flow of air and thus represents a cooling surface."

Why Fins Offer Advantages

"K factors on finned coils used in gravity cooling applications will run lower than bare pipe of the same diameter as the primary surface, but a considerable advantage is gained in over-all heat transfer because of the additional surface. However, the more finned or secondary surface there is in relation to the pipe or primary surface, the lower will be the value of the K factor."

The advantage of using finned tube in a gravity application was outlined by Frazee as follows:

Assume there are two 1/2-in. o.d. tubes, one bare, the other having three 2-in. diameter fins per inch. The bare pipe would have a surface area of .295 sq. ft. per linear foot. The finned pipe would have a primary surface of .295 sq. ft. per linear foot plus a secondary (fin) surface

of .655 sq. ft. for a total of .950 sq. ft. per linear foot.

With a K factor of 1.7 the bare pipe could conduct 48 B.t.u. per linear foot per °F. (.295 x 1.7).

The finned pipe, however, would conduct 75 B.t.u. per linear foot per °F. (.950 x 1.7).

"Thus the finned pipe would provide a 57% increase in capacity."

With forced air, finned coils will have K factors ranging from 1.5 to 5, he explained, the K factor increasing with an increase in air velocity, a larger percentage of prime surface, and with increased refrigerant velocity.

An increase in coil depth, as well as an increase in superheat, will mean a corresponding decrease in the K factor of finned coils, Frazee explained.

Scarce Water & Cheap Power Present Special Problems

On the general problem of selecting equipment for an installation, he commented: "We have noted that manufacturers of condensing units infrequently rate their units at other than the ASRE Standard Conditions: namely, 90° ambient air on the air-cooled models or with 95° water off the condenser."

"Frequently units must be operated at higher ambient conditions. In areas where water is expensive or in short supply and electric power is relatively cheap, it is economical to discharge the water at much higher temperatures. We have no rating under these conditions."

"In order to meet these problems, it is wise to consider only the purchase of open type condensing units. Some contractors will confine their purchasing to those units factory rated from 600 to 750 r.p.m. At these speeds," Frazee declared, "it is generally possible to increase or decrease the operating r.p.m. and hence the capacity."

Heat Exchanger May Up Capacity of Coil

"It is more difficult to pinpoint the possibility of increasing coil capacity on a given coil. It is frequently more simple to purchase additional coil surface than to attempt to extend the transfer fact by increasing the air volume."

"However, as we have failed to find a superheat published in many cases, we believe that the use of a heat exchanger between the outlet of the coil and the point at which superheat is measured by the thermal expansion valve will materially increase coil capacity."

"The old rule—you cannot buy a coil too large—is neither consistent with good practice (due to incorrect air volumes and humidity control) nor with economy. There is a right size produced by most of the manufacturers, but only experience will develop which one will balance the load and the compressor."

"Chart and graph each selection you make for your file, and chart each service job that operates at too low a suction pressure," he suggested.

"Time permitting, chart the balance points on equipment selections operating favorably. In a surprisingly short time you will have all the experience you will need to buy equipment with confidence."

"Follow these steps: Sell a thermostat to be hooked up in series with every system now operated on a pressure control alone. Sell additional coil capacity on every one of those jobs which short cycle on the low pressure switch because the setting insures a proper refrigerant-to-air temperature difference. You will have earned the title 'service engineer,' and you will have made more money than you dreamed possible."

Sunroc Ships Largest 1-Day Shipment In Firm's History

GLEN RIDDLE, Pa.—Sunroc Co., manufacturer of water coolers, recently shipped the largest one-day shipment in company history, it was announced by Orville C. Morrison, president.

Date of the shipment coincided with the date on which company branches and distributors nationally held their lowest inventory, he said. All shipments during that week were destined to actual ultimate consumers, with not a single unit for inventory, he noted.

Morrison also reported that Sunroc is moving into its large, new modern plant. He added: "No transoms have been installed above any door. This will prevent customers from throwing orders through transoms."

LOOK TO LARKIN for Performance



LARKIN TURRET HUMI-TEMP

The acid test of any product is performance. That's why you will find Larkin products used so widely for so many different refrigeration and air-conditioning applications. Users know from past experience that they can count on Larkin for top performance—day in, day out—year in, year out.

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Sell your condensing unit with Filtrine Stainless Steel or Duco finished cabinets, equipped to suit with top/side shelves, bubblers, glass-fillers. Can be Taste-Master equipped to remove chlorine, rust, sediment from water.

COOLERS FOR X-RAY & PHOTOGRAPHY

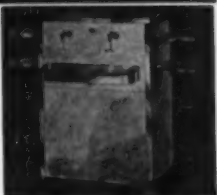
Sell your condensing unit with Filtrine models repeatedly named by V.A., Signal Corps, Air Force, etc. for X-ray and photo-labs. Under counter design and floor-mounted models with stainless steel work-table top. Filters (extra) to prevent scratched and pin-holed negatives.

PACKAGED CIRCULATING CHILLED WATER SYSTEMS

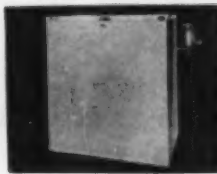
Sell your condensing unit! Systems for drinking or processing water—completely packaged with pump, controls, your condensing unit factory installed. Capacities 5-400 g.p.h.; storage 5-150 gals. Filters and Rectifier-Decolorators (extra) to insure taste-free, sparkling water.

REMOTE COOLERS

Sell your condensing unit with remote models for new and replacement jobs—all applications. Capacities 10-1000 g.p.h.; storage 7-300 gals. Filters, Rectifier-Decolorators available for all sizes.



MC-14-S MC-25-S MC-42-S



PH-7 PH-14 PH-25



Typical 'Packaged' Circulating Chilled Water System



Remote Model Coolers



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TYPICAL APPLICATIONS: STORAGE TANKS & ROOMS, COOLERS, DRYERS, AIR CONDITIONING

Illustrated, at top: Model G Indicating Thermometer, flush mounting type with capillary tubing for remote reading. Priced from \$18. At bottom: Model V Thermometer (vapor pressure type). Rigid stem for direct mounting. Priced from \$10.25.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION, DEPT. A-1
TOLEDO 1, OHIO
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INDICATING & RECORDING THERMOMETERS

BASIC REFRIGERATION CONTROLS

By Service Information Division,
White-Rodgers Electric Co.

Regardless of how well made the high and low sides of any refrigeration system may be, if the controls do not function properly or are not applied in the correct manner, the system will not give satisfaction to the user.

Controls may seem complicated to the average serviceman, but once understood, their function and method of operation are basically simple.

To help servicemen review these fundamentals the NEWS is publishing a series of articles on "Basic Refrigeration Controls" prepared by the Service Information Div. of White-Rodgers Electric Co., widely known manufacturer of controls. This is the first of several instalments that will appear in the weekly issues of the NEWS.

1-Control Simply 'Automatic Hand'

It has been said before, and is so true, that "we stand so close to the forest that we cannot see the trees." This is true in most everything we do in our daily lives regardless of what path we may choose to follow.

In the field of refrigeration it seems that so much time is being devoted to higher mathematics and thermodynamics that the basic principles of the subject are being placed in the files with ancient history.

It is true that to properly engineer a certain project we must know how to use a "sliding" psychrometer and a psychrometric chart and a few more big name instruments. But to make

the same project operate we must know something about the inner workings and the control problems involved.

Let us start out with the basic controls in a refrigeration system. The thermostat, pressure control, temperature control, expansion valve, capillary tube, solenoid valve, suction pressure valve, and water valve, and so forth and the many other controls involved.

The thermostat is a good place to start. There are low voltage thermostats to be used in conjunction with relays in air conditioning systems where the voltage in the control circuit does not exceed 30 volts; then the line voltage (115 volt-230 volt) room thermostats, remote bulb thermostats, and self-contained space thermostats.

Any thermostat is only a temperature-sensing instrument that tells us

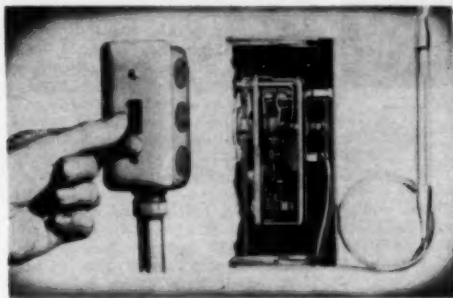


FIG. 1—A control is basically a switch controlled by an "actuating element" which is merely an automatic hand.

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New improved
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globe type
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Incorporating many new engineering refinements, these highly polished globe-type line valves for 1952 are designed and built to withstand the most severe operating conditions. In these new valves, an especially designed "O" ring chamber between body and collar provides positive seal regardless of the range of temperatures and pressures. As the union collar is tightened, the ring is compressed until its shape in cross-section is triangular, which utilizes both the "O" ring and gasket principle to provide an effective and permanent seal. The Nylon stem disc is tough, resilient and unsurpassed for refrigeration valve seating. Simplified construction assures easier, much quicker installation.



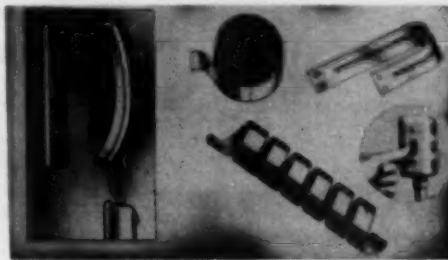
Write for catalog 8-152 describing complete line of STREAMLINE refrigeration products.



STREAMLINE refrigeration products are individual and multiple packaged for complete protection.

MUELLER BRASS CO. PORT HURON 10, MICHIGAN

FIG. 2—Bimetal elements warp in response to changes in temperature.



when it is "too hot" or "too cold." There are many varieties of elements used to make up these instruments, including the bimetal, vapor fill, and hydraulic action elements.

Before defining or describing the various types of controls, it may be wise to first point out what a control actually is and what it accomplishes.

CONTROL HAS 2 MAJOR PARTS

A temperature or pressure control consists of two major parts, or units. One unit is a switch, the other an actuating element.

The "Actuating Element" is merely a refined term for an automatic hand for a common electric switch with automatic leverage (See Fig. 1). Prior to the days of thermostatic and pressure switches most ammonia (NH₃) and carbon dioxide (CO₂) units were generally operated by the human hand. Then came the advent of the "automatic hand" to operate the switching mechanism at the call of temperature or pressure. These have been improved upon many times with various devices and of the latest is hydraulic action.

Let us go back and pick the various automatic controls step by step, starting with the most common, the bimetal type of thermostat.

First we have the two strips of metal intimately fused together, each with a different coefficient of expansion which causes them to warp with any variation in rise or fall of temperature. (See Fig. 2.)

This is a simple definition of bimetal units. They may be in the form of curved, coiled, horseshoe, or helix but they are still all automatic hands, employed to operate a switching mechanism.

ELEMENT HAS POSITIVE ACTION

Now let us take the positive action on the "hydraulic action element." Before that let us digress a moment. Let us say that you were going to design a control to your own specifications.

First you would want it to be simplified in design, or standardized, you would want it easy to install, easy to service or adjust, and easy to calibrate. You would want to do away with a service manual for each control, which makes it necessary for the serviceman to know and retain, in memory a lot of formulas to adjust or calibrate a control. Now we will go back to hydraulic action.

In the picture (Fig. 3) you see the "automatic hand," or temperature sensitive element, used by White-Rodgers to operate "hydraulic action" controls.

This element consists of three major parts, assembled as a single unit. At the lower section of the picture you see the temperature sensitive element or feeler bulb. The feeler bulb senses the temperature at the point where it is located and transmits it to the control mechanism and causes this mechanism to actuate.

The second part of the unit is the capillary which is coiled and which the hand is holding. This tube connects the feeler bulb to the diaphragm, shown in the upper part of the picture.

The complete unit is filled with a liquid, there are no voids, it is completely filled (by a unique process) with the liquid. A temperature rise causes the liquid to expand. A drop in temperature causes the liquid to contract.

'AGAINST WHAT DOES THIS LIQUID EXPAND?'

At this point it is natural to ask, "Against what does this liquid expand?" That is a good question. Even though you see the diaphragm in the upper part of the picture, it is hard to visualize the pressure exerted against it by a single degree change in temperature.

The fluted part that you see is the diaphragm made of stainless steel only a few thousandths of an inch thick and very sensitive to the expansion or contraction of the liquid which fills the sensitive element.



FIG. 3—"Actuating element" of control can also be a bulb filled with liquid and connected to a diaphragm.

This diaphragm is seam-welded into a stainless steel cap, which is of much heavier gauge metal than the diaphragm.

We have not gone into the switching mechanism of this control but, you can see that it takes only a few thousandths of an inch movement of the diaphragm to cause a terrific force against the switch or other object connected to, or touching the diaphragm.

Even though it is a "terrific force," it is a known fact that it will not be of sufficient magnitude, (if temperatures are held within reason) to rupture or warp the diaphragm.

(To Be Continued)

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Designed especially for Taverns and Night Clubs

The Originators of the
COMBINATION ICE CUBE MAKER & BEVERAGE COOLER
Gleaming Stainless Steel with Sliding Doors

This Model 1-6 Self-Contained unit makes 150 lbs. of ice cubes and dry cools 2000 12 oz. bottles daily.
REMOTE TYPE MODEL 1-6 dry cools 2300 12 oz. bottles daily. Provided with adjustable separators for 10 different brands of beverages.

POLYETHYLENE ROTO TRAYS
Just twist and you have as many ice cubes as you need at any time.
3-INCH INSULATION
WATERPROOF TANK
STAINLESS STEEL FINISH FRONT
4-5-6-7-8 FT. SIZES, 27" W., 39" H.

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ALLEN-BRADLEY
MOTOR CONTROL

Poses as Serviceman To Make Off with \$1.50

NIAGARA FALLS, N. Y.—Police disclosed that they were looking for an unidentified man who posed as a refrigerator serviceman at a Niagara Falls restaurant and escaped with \$1.50 for repairs which he claimed he made on a refrigerator.

Pat Eodice, of Pat's lunch, First St., told Detective Lieutenant William Wilson and Charles R. Chapple that, while he was absent for a short time, the man entered the restaurant and said that he had been sent to fix the refrigerator.

An employee, thinking that Eodice had ordered the repairs, paid the man the \$1.50 which he asked for the repairs he claimed to have made.

Eodice was informed of the man's visit when he returned to the restaurant and informed police, claiming that he had requested no service for the refrigerator.

The man, according to restaurant employees, gave a receipt signed "J. Wilson, O'Hara Refrigerator Service."

A service agency by that name in Buffalo said it had no man by that name in its organization.

K-R Services Ups Jacobsen To Newly Created Position

NEWARK, N. J.—Promotion of Theodore E. Jacobsen to the newly created position of operations manager of K-R Services, Inc., was made known by Max H. Krich, president.

K-R Services, Inc. is the servicing organization for Krich-New Jersey, Inc., Allied Distributors-New Jersey, Inc., and Associated Distributors-New Jersey, Inc.

What's New

When requesting further information on new products, please use "Information Center" form.

Tekni-Craft Brings Out New Type Continuous Freezer



KEY NO. B-340

ROCKTON, Ill.—An "entirely new type" of automatic continuous freezer, engineered and constructed for the needs of operators serving low temperature frozen desserts fresh from the freezer, has been announced by Tekni-Craft here.

"The new freezer is capable of delivering a continuous flow of cold stiff products even during rush periods in the hottest weather, and

each successive serving will be consistent," the company claims. "Hourly capacity will vary with temperature and composition of mix, drawoff temperature, and other conditions, and the manufacturer suggests that operators test the machine under their own conditions and compare its performance with that of any other freezer operating under the same conditions."

Features of the new Taylor freezers include its refrigeration system for "rapid" heat transfer, "powerful" condensing units and heater motors, a new heater with a helical pumping action, and an improved piston-valve drawoff.

The automatic mix feed is of the barometric pressure type said to require neither regulation nor adjustment.

"It regulates itself according to the rate at which the operator draws off the product," the company explained. "The operator need only pour in the mix, select his temperature for the finished product by setting a dial, and set the machine on automatic. The freezer also has a timer control, operated by a toggle switch, which enables the operator to keep his product uniform during slow periods."

Two models are available: Model

88, with a 1-hp. condensing unit and a 1-hp. heater motor; and model 99, which has a 2-hp. condensing unit and a 1½-hp. heater motor. Both units have a refrigerated 16-qt. mix hopper.

With hopper and freezing chamber full, approximately 40 qts. of finished product may be drawn from model 99 before mix is added, and approximately 30 qts. from model 88, according to the company.

Dimensions of both units are the same: 26 in. wide, 32 in. deep, and 57 in. high.



Computers Give Pipe Bend Angles Up to 126°

KEY NO. B-341

NEW YORK CITY—Using only four readings from a center line on two new angle meter and divisor computers made by the Interstate Sales Co. here, engineers and others can make rapid layouts right on the job of pipe bends up to 126°.

The computer gives direct readings for any angle of bend up to 126° in steps of 1° or less on pipe diameters from 1 to 20 in. Complete angles of

two pieces or multi-piece bends, y-layers, etc., are read on the computer and transferred quickly to the actual pipe, sheet metal, templet, or drawing board.

This instrument gives distances in inches along the pipe from a vertical center line. Only four measurement readings are required to mark a pipe by quadrants at 16 different ordinate points on the circumference. The circle divider gives instant reading of circumference division from 1/2 to 1/16 in fractions of an inch for any circle up to as large as 72 in. in diameter.

This divider is handy for getting ordinate spaces for templet layouts, Interstate points out.

The computers are equipped with pointers made of stable Vinylite plastic rigid sheet. Dimensional stability of the pointers assures the same accurate readings under any weather conditions, the company claims. The pointers resist abrasion and are easy to keep clean.

Both instruments are available in folding type for field use and flat type for the shop. Both measure 12 in. sq. flat by 12 by 4½ in. folded for pocket or tool box. In both flat and folded types, the angle meter costs \$5 c.o.d., and the divisor \$4 c.o.d.

B & G Announces Line of Space-Saving Booster Pumps

KEY NO. B-343

CHICAGO—Bell & Gossett Co. has announced a new line of booster pumps specifically designed to meet the need for more compact, space-saving units in residential and industrial hot water heating systems.

R. E. Moore, vice president, asserted that despite their reduced size the lighter units deliver a greater number of gallons per minute at a lower cost in electric power than their predecessors. He pointed out that aside from the modern demand for space-saving equipment, of additional importance is the conservation of critical materials. The smaller boosters, he said enable Bell & Gossett to produce more units from any given allotment.

The three new boosters comprising the new line are each powered by a small 1/2-hp. motor and are identified by the numbers "75," "100," and "125." Moore also said that the more compact pumps are in step with today's trend to smaller homes, making it imperative that operating equipment be made as small as possible.

Shelf-Type Superstructure Fits Schaefer Cabinets



KEY NO. B-342

MINNEAPOLIS — A shelf-type superstructure designed to display toppings, syrups, nuts, cones, cookies, and other items relating to ice cream is being offered as optional equipment with the Schaefer models GF-12 and GF-16 ice cream merchandising cabinets, Schaefer, Inc. announced recently.

This new Schaefer superstructure

adds approximately one third more merchandising area to the same floor space. Tests have shown it will boost related item sales approximately 50%, the company states.

It combines all the features of the Kodachrome picture-type superstructure with fluorescent-lighted, roomy, adjustable shelves. The edges of the shelves are wide enough for attaching small price strips or marking prices with grease pencil or rubber stamp. There is a built-in, sliding, disappearing night cover.

Superstructure has an extra shelf in rear for storage or display of related or non-related items. This exclusive Schaefer feature permits selling from both sides of the cabinet when it is not positioned against a wall.

Schaefer's glass front, open-top merchandisers are also available with a standard four-picture superstructure. Both the model GF-12 and model GF-16 and the two optional superstructures merely plug in any standard electrical outlet. Both cabinets have refrigerated partitions.

why you should sell TEMPRITE WATER COOLERS



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- The Temprite line is a quality line; measuring up, in every detail, to the highest Plumbing and Refrigeration standards.

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with 27 combinations of features

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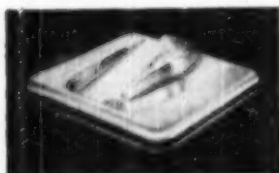
An explosion-proof Temprite model is available for use in potentially hazardous atmospheres containing gasoline, petroleum, lacquer solvents, natural gas, grain, wood and coal dusts, etc., etc. Bottle cooler and storage compartment model also available.

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THIS BEAUTIFUL, sanitary stainless steel top is the style leader of the water cooler industry! Won't crack or chip; easy to keep clean. Attractive Temprite bubbler operates with a gentle finger-tip pressure, delivers a smooth stream of perfectly cooled water without spurring or splashing.



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Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.

Products Advertised
(list name, page, and issue date)

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Reader Service Dept.,
450 W. FORT ST. DETROIT 26, MICHIGAN

What's New (Cont.)

New G-E Electric Sink Will Retail for \$469.95

KEY NO. B-344

LOUISVILLE, Ky.—A new "electric sink" which has a front-opening, top-loading automatic dishwasher under its porcelain enameled sink and drainboard has been announced by General Electric Co.

Designated the SE113, the electric sink will carry a recommended national retail price of \$469.95.

According to H. T. Hulett, general manager of the electric sink and cabinet department, the unit is contained in one compact, modern cabinet, and provides for a new system of internal plumbing which "greatly simplifies installation in both new homes and remodelled kitchens."

The dishwasher is claimed to wash and dry up to 100 pieces of china, glassware, cutlery, pots and pans—a complete family service for eight—in 30 minutes.

"The homemaker needs only to fill a detergent cup, load and close the machine, and turn a single control," the company said. "Dishes are auto-



matically pre-rinsed, washed, double rinsed, and fan-dried in circulating warm air."

The electric sink is 48 in. wide, 25 in. deep, and 36 in. high. A swing-type faucet assembly is provided, and the sink drain opening is sized for "easy, inexpensive" installation of a garbage disposer.

Removable enameled shelves below the sink bowl provide storage space for detergents and other cleaning supplies.

L & K 27 1/2" KITCHEN... Complete 27 1/2" kitchen unit combines 4 cu. ft. refrigerator, sink, drainboard, storage drawer, and 3-burner gas range adjustable to natural, manufactured, or bottled (L.P.) gases. Model R-520 also available with 3 electric burners for 220 v., or 2 electric burner for 110 v. "plug-in" use. 5 year guarantee.

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in

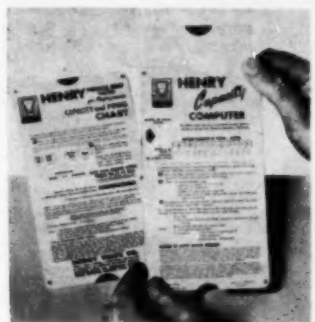
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NATIONWIDE SALES AND SERVICE

Computer Helps Pick Valve Specified by B9 Code



KEY NO. B-345

MELROSE PARK, Ill.—A slide chart which tells at a glance the proper selection of relief devices required in accordance with the ASA-B9.1-1950 Code for Mechanical Refrigeration has been issued by Henry Valve Co.

One side of the computer determines the discharge capacity, in pounds of air per minute, and number of relief devices required for all types of refrigerants in vessels of various sizes.

With discharge capacity of the vessel determined in pounds of air per minute, the other side of the computer automatically selects, in terms of code requirements, the correct size and type of Henry relief valve and shows the maximum length of discharge piping permitted on the installation.

With this computer the Henry Valve Co. also furnishes a pocket folder for the selection of relief devices for mechanical refrigeration systems in accordance with the Chicago Municipal Code.

Distribution to engineers, contractors and servicemen is made free of charge through any wholesaler of Henry products, or direct from the factory.

'Lectric Cook' Grills, Fries, Toasts, and Bakes Waffles



KEY NO. B-347

COLUMBUS, Ohio—Arvin Industries' newly-styled "Lectric Cook" model 3550 offers a 190-sq. in. cooking surface that grills, fries, toasts, and converts to a waffle baker.

This surface holds 16 hamburgers, eight pancakes, four full-size toasted sandwiches, or enough bacon and eggs for a family meal, according to the company.

Features include thermostatic control; automatic signal light that comes on when unit is plugged in, goes off when surface is pre-heated; expanding hinge permitting grilling thick steaks both sides at once; drip



spouts; special spacers providing for toasting extra-thick sandwiches without flattening; and pre-seasoned waffle grids (standard equipment) for baking four waffles at a time.

Feet, base, and handle are of molded brown plastic.

Closed, the appliance measures 12 in. square and 4 in. high. It operates on 110/120 volts and uses 1,320 watts, a.c. only.

THE MASTER SERVICE MANUALS - - -

— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.

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Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Changing from Sulphur Dioxide To 'Freon-12' (2)

If, after due consideration, it is decided to change a sulphur dioxide system to "Freon-12," the first thing is, of course, to remove the sulphur dioxide from the entire system.

PUMPING THE SYSTEM DOWN

Pump the charge into the condenser and receiver. Put on both gauges, and close the receiver service valve. See that any other valves, such as valves on the evaporator, line valves, solenoid valves or pressure reducing valves, are all open. This will allow you to pump the refrigerant into the condenser and receiver.

At first, we want to get most of the charge into the condenser and receiver. Later we will pump as near a perfect vacuum as we can. For this preliminary pump-down, a 15-in. vacuum is low enough.

Watch the high pressure gauge. It is possible that the condenser and receiver may not have enough capacity to hold the entire charge. This is likely on some multiples, particularly apartment house multiples. If the head gauge starts to go up rapidly, stop the compressor and purge the condenser or receiver into the lye solution as described later, until you can again operate the compressor at a normal head pressure.

When pumping down, see that the evaporator is warm. If it is cold, it will be difficult to get all of the sulphur out of the evaporator. If possible, the evaporator should be up to about room temperature by the time you get the system all pumped down.

THE PURGE SOLUTION

While the system is pumping down, prepare a lye solution into which to purge the sulphur. For years, men working with SO₂ have used a solution of one can of lye to a gallon of water; and this is enough to absorb a pound of sulphur dioxide.

Make up one gallon at a time and purge into it until it becomes so saturated with sulphur that you begin to smell sulphur; then make up another gallon and use it until it too is saturated.

Be very careful with the lye and with the solution. Lye is a powerful caustic. It is very corrosive to metals, leather, and many other materials. A wooden bucket is preferable. It is best to wear rubber gloves and goggles. Do not get it on your clothing, nor splash it on your face or anywhere on your skin. You will be sorry if you do!

If you should get some on you, immediately wash the spot with running water, followed if possible with a vinegar solution, which neutralizes the lye. Do not put oil on it as you might burn from fire.

B. A. Thomas of the Free-In Engineering Co. of Detroit writes that he purges SO₂ into a can of ordinary oil. He finds that he can purge several pounds of sulphur in a gallon of oil without any odor escaping. The author hasn't tried it, but it doesn't seem that the oil would hold very much SO₂, for SO₂ is only slightly soluble in oil. Nevertheless, Thomas says that it works.

PURGING THE SULPHUR DIOXIDE

After you have the system pumped down, you are ready to purge the sulphur from the system. With the valve back-seated, connect a 1/4-in. tube to the discharge service port in place of the high pressure gauge. Submerge the open end of this 1/4-in. line down near the bottom of the purging solution. Do not purge from the suction side.

Slightly crack the discharge service valve and slowly purge SO₂ out of the condenser and receiver into the solution. If you open the valve too wide, you may blow solution out of the bucket, and certainly you will get SO₂ into the air. If you are careful, you can purge the entire SO₂ charge without you or the customer smelling it.

Do not attempt to purge the sulphur into the sewer or drain, or into the outside air! Purge only into the solution as described.

If you begin to smell sulphur, close the discharge service valve to its back-seat, and make up another batch of lye solution.

If it is a water-cooled condenser, there is another reason for purging slowly. Purging SO₂ (or any other refrigerant for that matter) rapidly through the water-cooled condenser may so reduce the temperature of the condenser as to freeze the water in the condenser tubes. Water-cooled condensers have been frozen and burst in this manner. Feel the water-cooled condenser as you purge; preferably keep water running through it, for running water is less easily frozen.

When you can purge no more, the pressure in the condenser and receiver has been reduced to atmospheric. However, there is still quite a little SO₂ gas in the condenser and receiver—enough to create quite an odor if they are opened.

So close the discharge service valve (run it all the way in), start the compressor, and crack the receiver valve. This will pump a vacuum on the entire system, including the condenser and receiver. Pump a deep vacuum—as low as you can get. If the compressor is in good condition, you should get at least a 28-in. vacuum, perhaps even lower. You can now open the system.

CLEANING THE SYSTEM

Remove the compressor and pour out the oil. Better do this outside, for there may be some sulphur in the oil that will come out when the oil is poured. Be careful where you pour this oil. Also be careful where you pour the lye solution.

Do not pour either down the drain. If possible, pour them out on the ground, away from vegetation or where they will not be stepped in, or where they will not run down to a lower level where they will do harm. Wash the compressor out with trichlorethylene. When you pour it out, see if it is clear; if not, wash again until the trichlorethylene comes out clear.

It is advisable to at least remove the compressor discharge valve plate for examination. If it appears corroded, it may be advisable to disassemble the entire compressor and overhaul it.

If the bearings, shaft, pins, pistons, seal, etc., appear corroded or heavily blackened, the system may have had excessive water in it, causing corrosion from sulphurous acid resulting from the union of water and sulphur dioxide.

Soaking the parts in trichlorethylene or xylene will help soften and remove the corrosion, but you may have to physically remove the corrosion with sandpaper. Use a fine grade, at least as fine as No. 320, to avoid marring the finely finished surfaces. Also, wash the surfaces clean and free of sand before reassembling them.

There is probably some oil in the evaporator. Pour it out and then pour trichlorethylene in the evaporator and let it stand 10 minutes or so. If possible, shake the evaporator, so as to get the trichlorethylene in contact with all of the inner surface.

Pour out or blow out the trichlorethylene with nitrogen, preferably, or if not available, carbon dioxide. Dry air, or rather dried air, not ordinary compressed air, may be used, but it is not often available except in well equipped shops.

Wash and blow out the evaporator several times until the trichlorethylene comes out clear. If it doesn't seem to become clean, the inner surfaces may have become so corroded that the evaporator is unfit for use with "Freon-12," so it may have to be discarded and replaced with a new one.

Wash out and blow out the receiver and condenser in a like manner. Most receivers are made of steel, which is more apt to be corroded than copper. Be sure that the condenser and receiver are clean.

VENTILATION

In washing out the system, be sure to do this only in a well ventilated room (doors and windows open, or better, with an exhaust fan giving positive air removal). If such a room is unavailable, take the equipment outside to wash it out.

Trichlorethylene has toxic properties; not as bad as carbon tetrachloride, which should never be used for this purpose.

Nevertheless, there is no known oil solvent that is harmless, so do not expose yourself to fumes of trichlorethylene or any other solvent.

'FREON-12' AS A SOLVENT

"Freon-12" itself is one of the best known solvents for oil, grease, and various substances. It will wash dirt, core sand, oil, grease, and other materials from the inside surfaces of the system, even though care has been taken to clean them well.

It is, therefore, important that great pains be taken to clean the system thoroughly and also to remove all of the cleaning solvents, trichlorethylene, or other materials, just as completely as possible.

REFRIGERANT LINES

Remove the expansion valve or float valves, and wash out and blow out the liquid and suction lines.

For the same B.T.U. per hour capacity with "Freon-12" as formerly with SO₂, the volume of "Freon-12" vapor pumped will be only about two thirds as great as formerly with SO₂, so the suction line will be large enough—somewhat oversize in fact. The chances are that the same suction line can be used.

This is not necessarily true of the liquid line. For the same capacity in B.T.U. per hour, the volume of liquid "Freon-12" handled by the liquid line will have to be almost three times as great as was the case with SO₂.

Therefore, the liquid line will probably have to be replaced with a larger one, in order to avoid excessive pressure drop. Small installations up to and including 1/2 hp., that with SO₂ had 1/4-in. o.d. liquid lines, can still use the 1/4-in. liquid line for "Freon-12," provided that there is very little vertical lift of the liquid—that is, provided that the evaporator is very little above the compressor, say not over five feet.

Consult your tables for liquid line sizes for "Freon-12," and replace the old SO₂ liquid line with the larger size necessary for "Freon-12."

(To Be Continued)

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WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

Gibbs To Head Mueller West Penn Sales → Wholesale Distributing

PORT HURON, Mich.—A. C. Dapert, general sales manager of Mueller Brass Co., has announced the appointment of Robert L. Gibbs as manager of the Wholesale Distributing Div.



ROBERT L. GIBBS

Gibbs, who has been with the company for the past 10 years, was formerly manager of field sales personnel. In his new capacity he will be responsible for the direction of sales activities of all Mueller Brass standard products distributed by wholesalers in the plumbing, heating, refrigeration, and air conditioning industries.

Tyler Riggan, formerly manager of the Wholesale Distributing Div., was recently appointed executive vice president of Valley Metal Products Co., Plainwell, Mich., a newly-acquired Mueller Brass subsidiary.

(Concluded from Page 1, Column 4) emphasis on a particular item, yet the chart shows that its month-to-month sales over the past five years have remained at a constant level. If such is the case, you have a definite tip-off as to how to adjust your program.

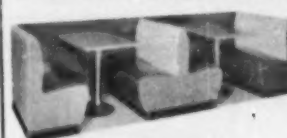
Construction Curbs--

(Concluded from Page 1, Column 2) be approved, he said, but those for entertainment or recreational structures will not be approved. Relaxation in the latter field will be considered only if there isn't sufficient demand to take up the structural steel available, he added.

Henry Fowler, head of the National Production Authority, said that to win approval, the builder must be ready to use his allotment when he gets it and he must cut to a minimum all non-essential use of copper. Applications should be submitted immediately.

Type of Appliance	January	February	March	April	May	June	July	August	September	October	November	December
Dishwashers	6.7	6.9	9.2	7.2	6.9	7.1	7.8	7.4	8.1	8.4	8.9	12.4
Garbage Disposers	5.2	5.3	7.8	7.6	6.6	7.3	7.4	7.6	7.5	8.9	10.3	12.1
Food Mixers	5.7	5.3	5.5	5.9	6.8	6.5	6.0	6.2	6.3	6.5	9.8	29.6
Ranges	5.2	5.3	7.9	7.9	9.5	10.6	10.2	9.7	8.9	8.7	7.4	9.8
Roasters	5.9	4.7	4.5	5.0	5.6	6.5	6.3	7.2	5.7	5.9	11.2	31.5
Food Freezers	7.6	5.8	8.4	4.5	6.2	9.3	10.9	12.5	9.0	7.4	9.5	11.5
Refrigerators	5.9	6.3	7.9	8.4	10.0	11.2	12.5	10.8	9.0	6.4	5.8	6.6
Room Coolers	1.2	1.1	1.1	4.8	7.5	28.9	28.9	23.5	3.9	2.7	1.1	1.3
Clothes Driers	5.5	6.0	5.5	4.9	5.0	8.4	6.6	5.1	11.1	12.0	13.4	16.7
Ironers	7.7	6.3	6.1	6.9	7.4	7.1	7.6	8.1	7.9	7.1	7.7	15.1
Washers (Automatic)	7.4	7.5	7.7	6.9	7.9	7.7	9.0	9.4	8.6	8.7	7.6	11.3
Washers (Conventional)	7.7	7.8	8.5	8.3	7.7	7.9	9.7	9.6	8.5	7.7	7.3	9.8
Bed Coverings (Electric)	11.7	5.0	3.4	3.0	3.6	2.0	1.8	1.7	4.6	8.8	13.5	40.9
Cleaners	8.0	7.2	9.1	8.8	8.3	7.3	6.5	7.5	7.6	7.5	7.6	14.6
Television Sets	6.9	8.1	7.7	6.1	4.4	3.6	4.5	8.1	11.1	12.1	11.4	16.0
Radio	7.8	7.3	5.9	6.9	6.6	6.5	6.4	7.0	7.4	7.6	9.2	21.4
Water Heaters	5.2	5.5	6.5	8.1	9.8	10.3	9.6	10.0	9.1	9.3	7.2	9.0
Certified Lamps	7.7	7.1	7.2	7.9	7.9	8.1	6.3	7.0	6.8	7.1	8.0	18.8
Other Portable Lamps	6.8	6.2	6.7	7.4	7.6	7.2	6.4	7.6	8.5	9.2	10.1	16.2
Incandescent Fixtures	6.7	7.0	7.6	7.8	8.5	7.6	8.8	8.9	9.2	9.7	9.0	9.2
Fluorescent Fixtures	6.2	7.2	6.9	6.9	7.4	6.6	9.2	9.6	9.8	9.6	9.5	11.1

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write for illustrated catalog
ST. LOUIS, MO.

Houston Sales--

(Concluded from Page 1, Column 3) one fourth as many food freezers were sold last year as refrigerators. Freezer sales totaled 6,600, compared with 25,670 refrigerators.

Statistics reported by the utility cover sales in its major service area, which includes Harris, Galveston, and Fort Bend counties. The utility said that even though total sales of some appliances failed to equal 1950 levels, the figures "reflect a healthy sales volume. The volume is more comparable to total sales for 1949."

Room cooler sales in 1951 totaled 11,984 units, of which 10,664 were window-type units of 1/4-ton capacity and up. Sales of self-contained and remote air conditioning units of 2 to 15 tons amounted to 2,116.

Unit sales of other selected items were: automatic washers, 15,811; non-automatic washers, 10,056; ranges, 2,261; driers, 1,786; dishwashers, 2,959.

Commenting on the figures, the utility said: "Advance buying in the late fall of 1950 and the early spring of 1951 due to war scare, sharp declines in buying throughout most of the remainder of the year, high inventories, imposition of production cutbacks due to metal shortages, and credit regulations were factors in the decreased volume of refrigerators and the several other appliances showing a decline."

DISTRIBUTOR REPORTS SHOW SUBSTANTIAL VOLUME IN HOUSTON-AREA APPLIANCE SALES DURING 1951

Appliances, Equipment	Units Sold 1951
Ranges	2,261
Refrigerators	25,670
Food freezers	6,600
1/4-ton room coolers (window type)	980
Clothes washer (non-automatic)	10,056
Clothes washers (automatic)	15,811
Clothes driers	1,786
Dishwashers	2,959
Vacuum cleaners	10,911
Roasters	5,826
Electric bedding	6,616
Radios	52,379
Television receivers	35,295

AIR CONDITIONING EQUIPMENT

1/4-ton and up room coolers (window type)	10,664
1/4-ton and up room coolers console type)	340
2 to 15 tons self-contained air conditioning units	1,873
3 to 15 tons separate compressor air conditioning units	243
(Above figures not adjusted for inventory differences.)	

Prime Contractor Lists Available for Chicago Area

CHICAGO—Lists showing quantities, dollar values, and names and addresses of prime contractors throughout this area whose contracts may exceed \$250,000 are available to potential subcontractors at the Chicago Air Regional Office, Midcentral Air Procurement District, 165 N. Canal St., Chicago, it was announced. At the same time, Air Force prime contractors and potential subcontractors were urged to visit the AF Small Business offices in the Midcentral Air Procurement District.

The Scratch Is on the Surface!

There are many bromides we hear concerning the air conditioning industry. Most of these—like, "still in the development stage," "need for better engineering," "market information deficiency," "public acceptance has a long way to go," "lower prices are the answer"—while true in part, have the suspicious sound of convenient excuses.

While there is engineering and research at work, no product—including air conditioning—can be considered perfect: there will always be improvements and advances.

The great truth about air conditioning or any other product is that sound and aggressive merchandising and selling methods can nullify most, if not all, of the so-called drawbacks, and can make weak any excuse or series of excuses for insufficient sales volume.

Despite the rather spotty and comparatively slow-moving sales curve for the air conditioning industry up until the end of World War II, vastly improved selling, merchandising, and promotion methods have produced very healthy sales increases, and the "prognosis" is heavily positive for the future.

On the part of all sellers of air conditioning, AIR CONDITIONING & REFRIGERATION NEWS feels that greater knowledge of successful sales methods, greater awareness of the as yet only-touched-on applications of air conditioning in many markets can be of real, immediate, and permanent value to the entire industry.

For the APRIL 21 issue of AIR CONDITIONING & REFRIGERATION NEWS, the editorial department is gathering the most helpful, most timely, most practical stories and articles on successful sales methods and new applications that we have ever published.

Here in one great issue will be the high point of the year-round service the NEWS offers the air conditioning industry.

Here will be the proven formulas, the field-tested methods for increasing sales this year and in years to come.

For manufacturers of air conditioning equipment of all kinds—room coolers, package units, central systems, and all types of accessory equipment—the APRIL 21 issue of the NEWS provides an advertising medium of unequalled value to MOVE THE GOODS!

We believe you will want to take full advantage of this issue by tying in with another outstanding editorial job by the editors of AIR CONDITIONING & REFRIGERATION NEWS.

It's an issue that calls for dominant space with the accent on selling your products.

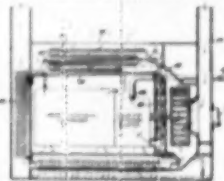
LET'S GET THE SCRATCH BELOW THE SURFACE!
THE AIR CONDITIONING MERCHANDISING AND APPLICATIONS ISSUE
APRIL 21

CLOSING DATE FOR ADVERTISING, APRIL 11

AIR CONDITIONING & REFRIGERATION News

PATENTS Week of January 15

1,566,397. AIR CONDITIONING UNIT AND EXPANSION MOTOR THEREFOR. Charles J. Thibault, New York, N. Y.

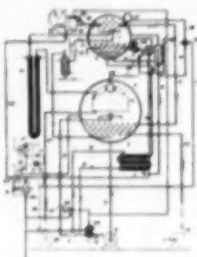


10. A compression expansion device for refrigeration by air expansion, comprising a rotary expansion motor, a load for the motor, a piston and compressor each including cooperating rotary impellers mounted in intersecting cylindrical chambers a channel for flow of compressed air from the compressor to the motor, a heat exchanger for removing the heat of compression during said air flow, shafts extending axially through said chambers and channel with coupling a motor impeller, gears coupling said shafts together, air inlet ports in the end walls of said motor chamber to connect the said channel to said motor chambers, rotary overlapping valve discs forcing the outer side of each said end wall, each secured to a shaft and arranged alternately to open and close the respective air inlets sequentially and a blower driven by said expansion motor to supply a stream of cooling air to said heat exchanger.

1,566,397. SAFETY CONTROL FOR ABSORPTION REFRIGERATION MACHINE. Louis H. Leonard, Jr., Syracuse, N. Y., assignor to Carrier Corp.

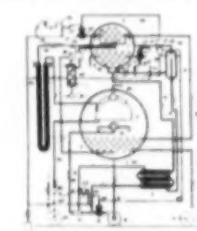
1. In an absorption refrigeration system, the combination of an absorber, an evaporator, a generator and a condenser disposed in a closed circuit, means for regulating flow of solution through the circuit, means for regulating supply of heating medium to the generator, means for regulating supply of cooling medium

to the absorber and condenser, a pneumatic supply system for actuating the regulating means, means for reflecting a predetermined increase in temperature of chilled water leaving the evaporator, and



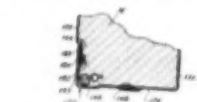
means for venting at least a portion of the pneumatic supply system to the atmosphere to discontinue operation of the absorption system, and venting means being actuated by said reflecting means.

1,566,398. CONTROL MECHANISM FOR ABSORPTION REFRIGERATION SYSTEM. Louis H. Leonard, Jr., Syracuse, N. Y., assignor to Carrier Corp.



1. In an absorption refrigeration system, the combination of an absorber, an evaporator, a condenser and a generator, a valve for regulating passage of solution through the system, a control, an air line connecting the control and the valve, said control actuating said valve, a second valve for regulating passage of steam through the generator, a second control for regulating operation of said second valve, a third valve for regulating passage of condensing water through the condenser, a third control, a second air line connecting the third control and the third valve, said third control actuating the third valve, a source of supply of compressed air connected to the first and third controls, control mechanism connected to the first air line and to the second air line, and a third air line connecting said mechanism to the second control, said mechanism being responsive to differences in air pressure in the first and second air lines whereby the first air line is connected to the third air line or the second air line is connected to the third air line in accordance with the respective pressures in said first and second air lines.

1,566,399. REFRIGERATOR CABINET. Carl Edward Harry Frykholm, Duluth, Minn., assignor to The Coolerator Co.

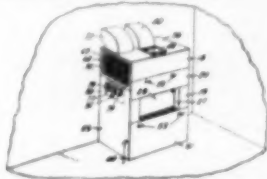


3. A double-walled cabinet comprising spaced inner and outer shells having openings on corresponding sides thereof, a flange on the outer shell extending into the opening therein and substantially perpendicular to the terminal portion of said inner shell and spaced therefrom, said terminal portion having its free edge terminating inwardly from the plane of said flange, the free edge of said flange being spaced outwardly from the plane of said terminal portion, and a plurality of means for supporting the inner shell from the outer shell, each of said means comprising a bracket having a free side parallel to said flange, a side secured to the flange in spaced relation to the free edge of said flange and a side abutting the shell adjacent the flange; another bracket having a free side extending toward the free side of said first mentioned bracket; and a side secured to the inner shell in inwardly spaced relation to the

free edge of said terminal portion; a low-heat conductor member having portions engaging the free sides of the brackets; and means securing the said engaging portions to the said free sides; and a strip of substantially right-angled cross section mounted on said flange and said terminal portion and having two bifurcated edges, said flange being disposed in one of said bifurcated edges, and said terminal portion being disposed in the other of said bifurcated edges.

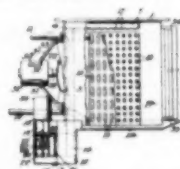
Week of January 22

1,566,400. STORAGE VAULT CONDITIONING UNIT. Walter G. Maertel, David H. Oliver and Vernon H. Smallbeck, Minneapolis, Minn., assignors to Walter Maertel Co., Minneapolis, Minn.



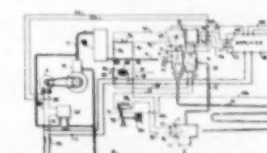
1. A refrigeration, dehumidification, and fumigation unit for such rooms as fur storage vaults comprising a casing having a plenum chamber provided with a reversing inlet adapted to receive from the room and a discharge outlet adapted to discharge into the room, a motor operated blower receiving from said plenum chamber and discharging through said outlet, a refrigeration unit having an expansion coil located in said inlet to said outlet, a humidifier within which a liquid fumigant may be placed located within said plenum chamber, louvers controlling the flow of air through said expansion coil and located within said plenum chamber in such relation relative to said humidifier that when the louvers are partially closed the air passing from said inlet to said outlet will be deflected around said humidifier, a thermostatic switch reflecting the temperature in said room and closing when the temperature in the room rises above a particular setting and opening when the temperature lowers below a particular setting, a humidostat reflecting the humidity of air within the room and closing when the humidity in the room rises above a particular setting and opening when the humidity in the room lowers below a lower particular setting, a lower operating motor, a linkage between said lower operating motor and said louvers for partially closing said louvers when said lower operating motor is energized, means normally urging said louvers to open full open position when the lower operating motor is not energized, means for controlling the operation of said refrigeration unit, a main refrigeration switch, a first blower motor circuit adapted to be established to said blower motor when said main refrigeration switch is closed as said thermostat closes, a second blower motor circuit adapted to be established when said refrigeration switch is closed upon the closing of said humidostat, a lower operating motor circuit adapted to be established to energize said lower operating motor when said main refrigeration switch is closed and as said humidostat closes, a fumigation switch, a third blower motor circuit adapted to be established to said blower motor when said main refrigeration switch is open and said fumigation switch is closed, and a second lower operating motor circuit adapted to be established to energize said lower operating motor when said refrigeration switch is open and said fumigation switch is closed.

1,566,401. EVAPORATIVE FLUID COOLING APPARATUS. Hyman Malkin, Trenton, N. J., assignor to Kramer Trenton Co., Trenton, N. J.



1. Apparatus of the character described comprising, a coil, a water reservoir, a conduit for distributing water from the reservoir to the outer surface of the coil, and pumping mechanism adapted to cause water to flow from the reservoir through said conduit, said pumping mechanism comprising, a housing having a water inlet in the side thereof, a motor drive shaft within the housing, an impeller fixed to the shaft, and at least one vane positioned within the housing adjacent the impeller and lying in a plane substantially parallel to the longitudinal axis of the shaft to resist swirling of the water within the housing when the impeller is rotated.

1,566,402. REFRIGERATION CONTROL APPARATUS. William L. Huntington, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co.



1. In a refrigerating system including electrically energizable means for causing operation of said system, an expansion valve, and an evaporator; control apparatus for said system comprising: a motor for operating said valve, first electric impedance means responsive to refrigerant temperature at said valve, second electric impedance means responsive to refrigerant temperature at the outlet of said evaporator, a relay means, an electrical circuit including said first and second means and said relay means for controlling said motor, and electrically operable means controlled simultaneously with said electric impedance means for causing a temperature difference between said first and second means before said valve opens.

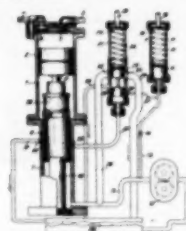
1,566,403. FREEZER DEFROSTER. Harvey H. Mallick, Spring Valley, N. Y.

1. An auxiliary apparatus for defrosting a refrigerating system of the kind including an electrically operated compressor, an electrically operated blower, an



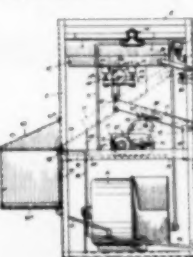
evaporator, a refrigerant supply line from said compressor to the evaporator and a water-spray defrosting means for the evaporator, comprising a normally open solenoid operated valve in the supply line to be energized to close and stop the flow of refrigerant when defrosting is to take place, normally inoperative heating means beneath the evaporator and on the water spray means, a normally closed solenoid operated valve on the water-spray means to be energized to open and start the flow of water from the spray means onto the evaporator, and manually settable circuit means for stopping operation of the compressor and the blower, for closing said normally open solenoid, for energizing said heating means and for opening said normally closed solenoid.

1,566,404. HYDRAULIC PISTON-CONTROL RIDING FOR REFRIGERATOR COMPRESSOR. Otto Schander, Gränichen, Switzerland, assignor to Gebrüder Schander Radiatoren- & Apparatenbau, Gränichen, Switzerland.



1. A piston compressor type of refrigerating plant comprising a compressor having a cylinder and a piston, the filling stroke of which is produced by the pressure of the vapor of expanded refrigerant, a motor having an operative piston drivingly connected with the compressor piston to produce the discharging stroke of the compressor piston while the said driving piston partakes of the motion of the compressor piston in its filling stroke, thereby being displaced in the driving motor, said motor having a pressure cylinder in which the driving piston is located, a supply reservoir for operating liquid, a pressure pump for supplying driving pressure liquid to the driving motor, a supply conduit connecting said pump with said motor cylinder, a subsidiary cylinder, an auxiliary cylinder, the subsidiary cylinder and the auxiliary cylinder each being provided with a spring-loaded piston, a conduit connecting the driving motor at an intermediate point of its stroke with the subsidiary cylinder on the opposite side of its piston from its loading spring, a conduit connecting the auxiliary cylinder at a point on the opposite side of its cylinder from its loading spring with a point of the subsidiary cylinder which is blocked by its piston when its spring is fully expanded and is opened when the piston moves to compress its spring, so that the auxiliary piston is then supplied with driving liquid, return pipes leading from the cylinder of the operating motor and from the subsidiary cylinder to the supply reservoir the piston in the auxiliary cylinder therefore, being moved against the force of its piston loading spring, during the pressure stroke of the operating piston, and at the end of the stroke forcing pressure fluid from the motor cylinder to the subsidiary cylinder and moving the subsidiary cylinder piston against the force of its piston loading spring to thereby connect the auxiliary cylinder with the subsidiary cylinder and by means of the subsidiary cylinder piston open the proper return pipe so as to change the compressor piston over to filling stroke, the returning operating piston being thereupon at first temporarily cut off from the pressure cylinder and thereupon connected with its return pipe, the piston of the subsidiary cylinder being then moved by its spring and serving to cut the subsidiary cylinder off from the auxiliary cylinder and to close the return pipe of the subsidiary cylinder thus, producing the discharging stroke of the operating piston and again supply pressure liquid to the auxiliary cylinder.

1,566,405. ICE-MAKING MACHINE. Gustav F. Erickson and Dorman B. McShan, Indianapolis, Ind., assignors, by means assignments, to Icecrafters Trust, a trust comprised of John B. Bayston, Van Nuys, Bernidine B. Oliver, North Hollywood, Calif., and Ward M. Vanderpool, Rockford, Ill., as trustees.



1. In an ice cube making machine, the combination of a freezing unit comprising a plurality of cells normally open at the bottom, a closure plate for said unit movable to close and seal said unit during a freezing cycle, means for introducing into said cells a liquid to be frozen into ice cubes, means for refrigerating said unit to freeze the liquid therein, an agitating member interposed between the bottom of said cells and said plate, and means operably connected with said mem-

ber for imparting movement thereto to effect an agitation of the liquid during the freezing cycle.

AVAILABLE FOR LICENSING OR SALE

General Electric Co. offers the following patents for non-exclusive licensing on reasonable terms to domestic manufacturers. Application for licenses may be addressed to the Manager, Patent Department, General Electric Co., 1 River Rd., Schenectady, N. Y.

Pat. 2,499,179. Support for Food Storage Receptacles. Feb. 28, 1950. Reg. No. 46,304.

Pat. 2,561,201. Refrigerator Latch. July 17, 1951. Reg. No. 46,309.

Pat. 2,481,968. Refrigerant Flow Controlling Device. Sept. 13, 1949. Reg. No. 46,311.

Pat. 2,564,473. Sliding Shelf. Aug. 14, 1951. Reg. No. 46,312.

Pat. 2,564,475. Dehydration of Frozen Foods. Aug. 14, 1951. Reg. No. 46,313.

"Stories of the Week" In Handy Form

In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION NEWS subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

Here's why: this book of good stories you can tell is printed on thin paper, bound in flexible leatherette, and designed to fit neatly into your inside coat pocket.

While waiting in an ante-room to see Mr. Bigdome, the sales representative can thumb through it and pick out four or five pertinent jokes which are guaranteed to put his prospect in a good mood.

The man about to make a speech—or one who figures he may be asked to rise and shine extemporaneously—can consult it surreptitiously while the toastmaster is doing his stuff. Although it's jam-packed with grand tales, it isn't bulky. Rather, it's unobtrusive. Looks more like a leather wallet than a book.

You can be the life of the party if you've memorized some of the anecdotes in this book. Everybody loves a good story well told—and all the jokes in this book have been tested on tough audiences, both large and intimate, by the author.

Within its 236 thin-paper pages more than 200 sure-fire laughs are presented. You can use it profitably, and so can your friends. It's handsomely turned out, and will make an appreciated gift anytime.

PRICE: \$1.50

Write for quantity discounts on 5 or more copies.)

Order directly from: Business News Publishing Co., 450 West Fort St., Detroit 26, Mich.

BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich.

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3-24-52

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D. E. Verner, Appliance Dealer, Bakersfield, Calif., says:

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3-24-52

Procurement Information

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one. First time bidders on a particular item should request a copy of applicable specifications and drawings at the time the request for a bid is made.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Rock Island Arsenal; Springfield Arsenal; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of these offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. Ordnance District Offices do not have information on any other purchases.

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q" or, if numbered, the number will be followed by the letter "Q."

Description	Quantity	Invitation No.	Opening Date
San Francisco, District Corps Of Engineers, U.S.A. 180 New Montgomery St., San Francisco, California Fan, explosion proof propeller, 200 ea. (04-208-52-842)			27 Mar 52
for paint room exhaust, 12" cap in line of static pressure, 0", 1000 CFM-110 V, 1 PH 60 cycle lig elec ventilating Co. cat 58125, size 125X85 or equal, explosion proof motor shall carry UL label, suitable for class I, group D, hazardous applications motor shall be fungus treated in accord w/ joint army-navy spec. JAN-T-152-dtd 30 Jan 47 "Treatment moisture & fungus resistant, OC communications, electronic & associated electrical equipment, gen. process.			
Bureau Of Ships, Washington, D. C. Chilled water unit coolers, 235 ea. 540-949Q			7 Apr 52
and cooling coils.			

Bush Dividends Declared

WEST HARTFORD, Conn.—At a regular meeting of the board of directors of The Bush Mfg. Co., it was voted to declare a dividend of 25 cents per share on the common stock, payable April 1, 1952, to stockholders of record as of March 18, 1952.

It was also voted to declare a dividend of 28½ cents per share on the 4½% cumulative convertible prior preferred stock and 31½ cents per share on the 5% non-cumulative preferred stock, both payable on April 1, 1952, to stockholders of record as of March 18, 1952.

MISSING SOMETHING?

More and better useful information is yours for the asking. See "What's New" page.
Use Key No. for fastest service.

Williams, Graham Elected Rheem Mfg. Vice Presidents

NEW YORK CITY — Robert P. Williams, Jr. and Clarence Graham, Sr. have been elected vice presidents of the Rheem Mfg. Co., manufacturer of steel shipping containers and automatic storage water heaters, it was announced recently by Richard S. Rheem, president.

Williams, Washington manager, who headed up the Rheem program of developing and manufacturing hermetically-sealed, shock-mounted metal containers for all types of aircraft engines, joined the Rheem organization following his discharge from the Army as a commissioned officer in the Ordnance Corps.

Graham was president of James Graham Mfg. Co. of Newark, Calif., manufacturer of the Wedgewood gas ranges. The Graham company was acquired by Rheem last year.

Construction Starts on New 'Everfrost' Plant

LOS ANGELES—Construction has been started on a new factory for the manufacture of "Everfrost" soda fountains and drink dispensing and carbonating equipment, it was announced by Anderson and Wagner, Inc.

The new plant, located on a 6½-acre industrial site in South Los Angeles, will be ready for occupancy about May 1.

In making the announcement, Fred Wagner, president of the company, explained that despite two additions in recent years to the present factory, the growing demand for Everfrost equipment has made new and larger facilities necessary.

The new building will be completely modern in design and of all steel, brick, and concrete construction. Offices will be located on the ground and second floors at the front.

Defense Dept. Installs Bid Boards To Simplify Procurement

WASHINGTON, D. C.—After June 1, manufacturers' representatives visiting the Air Material Command's Procurement Div. will be able to study bid boards and get other procurement information at the contractors relations section in the reception center outside the main gate, according to the Department of Defense.

This arrangement will simplify the routine for visiting representatives as well as comply with tightened security regulations, it was pointed out.

Navy Contractors Asked To Subcontract to Small Business

WASHINGTON, D. C.—The Navy has asked all its contractors to subcontract every possible item to small business, according to the Department of Defense.

Navy contractors have also been asked to emphasize the subcontracting program by establishing an organization within each company to re-examine present defense contracts and take out every item that can possibly be subcontracted.

Dallas Market Air Conditioned

DALLAS—Air conditioned, a new H & H Food Mart has just opened for business at 10215 Midway, Northwest Dallas. The new supermarket is the third for the owners, Raymond F. and David W. Hathcox.

Installation of refrigeration and air conditioning in the new unit was by Bagge Refrigeration Co.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 80 words. 10¢ per word over 50.
RATES for all other classifications \$7.50 per insertion. Limit 80 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

AIR CONDITIONING commercial refrigeration supervisor with 25 years' practical experience in the installation and service of commercial, industrial refrigeration & air conditioning. Past 4 years South America with major oil company. Speak Spanish & German. 43 years old, married. Will locate anywhere. Interested permanent position future. BOX 3958, Air Conditioning & Refrigeration News.

MANUFACTURERS, WHOLESALERS—Experienced men always in demand. Your opportunity to obtain the services of the best qualified sales manager and engineer today. Available May 1st. Sorry, unable to identify myself due to present position. Finest references obtainable. If your business needs help, inquire at once. BOX 3954, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

RADIO-TV-Refrig. field engineers. Will train good radio service men or engineers to travel in supervisory capacity. Requires good fundamental and practical knowledge. Service or engineering experience necessary. Distributor or factory experience desirable. Excellent opportunity. Vacancies due to promotion and expansion. Can work into sales or development engineering. Midwest, southern and eastern territories available. Automobile not needed. Send details of experience, education, also present and past salaries. All replies will be kept confidential. ADMIRAL CORPORATION, Dept. E, 201 E. North Water St., Chicago 11, Ill.

MANUFACTURER'S AGENTS Wanted: Agents now calling on wholesalers can, without conflict with present lines, sell three new items. Products now in use by U. S. Navy and Refrigeration Schools. Exclusive territories assigned. Commissions paid on all repeat orders. Leads furnished. Write: TESTER MFG. CO. Route 2, Lisbon, Ohio.

REFRIGERATION ENGINEER. Vilter, one of the oldest names in refrigeration, has an opening for an experienced young engineer well founded in heat load calculations and with knowledge of refrigeration engineering in connection with larger type installations. Immediate placement in Application Engineering Department in Milwaukee; eventual chance to do selling. THE VILTER MFG. CO., Milwaukee 7, Wis.

SALES ENGINEERS—Experienced in air conditioning and refrigeration—for Westinghouse Electric Corporation, Air Conditioning Division, sales offices in Midwest. Reply stating full qualifications, experience and salary to BOX 3936, Air Conditioning & Refrigeration News.

SALESMEN—To sell wholesale complete line refrigeration parts and supplies. Leading lines of condensing units, blowers, motors, valves, Freon, and copper tubing. On commission basis. We ship anywhere in the U.S.A. BOX 3968, Air Conditioning & Refrigeration News.

ZONE SALES managers wanted. We will employ high caliber zone sales managers, one for Northwest territory, one for Virginia-Maryland-Delaware-North Carolina area, & well-established commercial refrigerator manufacturer with nation-wide selling organization. Our product is essential in every food market, hotel, restaurant, institution, etc. but you would be working with present distributors and appointing new ones. Our selling season is year around with peak sales just ahead. It's a good opportunity if you're not satisfied with progress you're making or have reached the top with present connection. Write us your qualifications and we'll tell you details of our offer. Address BOX 3947, Air Conditioning & Refrigeration News.

MAJOR CONTROL manufacturer has opening for sales engineer to contact wholesalers and dealers in Northern California. Excellent opportunity for man with sales ability and practical refrigeration experience or engineering background. Salary plus commission. State qualifications, age, etc. in first letter to BOX 3948, Air Conditioning & Refrigeration News.

POSITIONS OPEN for three regional sales representatives to cover southeast, northwest, and midwest for large nationally known manufacturer of ice cream cabinets and frozen food cabinets. Big opportunity for right men in fully protected areas. Write BOX 3949, Air Conditioning & Refrigeration News.

REFRIGERATION SALES engineer: Large Midwest air conditioning manufacturer has excellent opening at home office for man with broad refrigeration engineering and sales background. Triple A company, nationally known with sales offices in principal cities. Man selected must be qualified to help the field offices promote the sale of refrigeration compressors and to assist in closing large tonnage work. Write BOX 3950, Air Conditioning & Refrigeration News.

DRAFTSMAN: MUST have had actual board experience and capable of learning designing. Prefer man familiar with refrigeration compressors. This is not a temporary defense job but is permanent with opportunity for advancement. Plant located in small town in Midwestern Ohio. Monthly salary based on regular 40-hour week with extra for overtime. Paid holiday days, vacations, insurance, etc. Reply by letter giving personal qualifications, details of experience and salary required. All replies will be held strictly confidential. BOX 3951, Air Conditioning & Refrigeration News.

POSITION AVAILABLE. Man with refrigeration, cabinet design, and sheet metal experience to assist in the development of low temperature refrigeration equipment. Give record of past employment, references, and salary expected. BOX 3952, Air Conditioning & Refrigeration News.

MECHANICAL ENGINEER (refrigeration). Mechanical engineer with broad refrigeration experience for design and development of new products. Responsibility includes unsupervised handling of design and drafting through to supervision of testing and changes. There is an excellent opportunity for advancement with a medium size, rapidly growing company. Work will be in New York office with occasional visits to plant. Resume should include education, experience, and recent salaries. BOX 3953, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

515 POWER UNITS, ½-hp., 2-cylinder, CFM 2.3, 115-volt, 60-cycle, single phase, with ¾-in. SAE suction valve, ¾-in. discharge tube connection for P-12 refrigerant. High temperature units, 80° F. evaporator or below. Priced at \$50.00 each FOB Evansville, Ind. in lots of 50 or more. Units in original domestic shipping cartons. AJAX CORP. OF AMERICA, 3808 Washington Ave., Evansville Ind.

NEW—½ and ¾-hp. open type refrigerating units, air cooled. Price: ½ hp., \$84.34; ¾ hp., \$102.60. These units are equipped with Chieftain compressor bodies and Century capacitor type motors with built-in thermal protection. Freight allowed on quantity orders of 10 units or more, may be assorted sizes. Write for literature and specifications. ARCTIC-AIRE, 1621 Grand Ave., Kansas City, Mo.

FOR SALE—80 ton cooling equipment as follows: with magnetic starters and automatic controls; 3 Freon 4 cylinder Freon Compressors 4½ x 4¼ Model F.W.-440; 3 40 H.P.-208 volt-3 phase-60 cycle 1750 R.P.M. motors; 6 Aero fin coils, 4 pipes deep, 18 pipes high 8½" x 26"; 1 80 ton Buffalo fan 28" x 43" delivery 30,000 C.F.M.; 3 new American coils model 20300. ROYAL REALTY CO., 512 38th Street, Union City, New Jersey.

WE HAVE available for immediate liquidation the following air conditioning equipment: 3-SCY #201, Ser. #2967 & #2968, 3 h.p., 230V, 3 ph., 60 cy., \$419.00 ea.; 3-SCY #207, Ser. #2968, #2969, & #2970, 3 h.p., 230V, 1 ph., 60 cy., \$467.00 ea.; 3-SCY #202, Ser. #2971, #2972, & #2973, 3 h.p., 208V, 3 ph., 60 cy., \$401.00 ea.; 3-21 Plenum for 3 h.p., \$23.00 ea.; 1-SCY #502, Ser. #2928, 5 h.p., 208V, 3 ph., 60 cy., \$600.00 ea.; 2-SCY #501, Ser. #2906 & #2905, 5 h.p., 208V, 3 ph., 60 cy., \$600.00 ea.; 1-SCY #504, Ser. #2918, 5 h.p., 208V, 3 ph., 60 cy., \$600.00 ea.; 1-SCY #507, Sealed Unit, Ser. #10057, 5 h.p., 230V, 1 ph., 60 cy., \$1,075.00 ea.; 4-32 Plenum for 5 h.p., \$30.00 ea.; 2-Condensing Units, less motor 3 h.p., \$355.00 ea.; 1-FD-30 Air Conditioner 250/350, 3-ton, 1750 BTU, \$755.00 ea.; 1-21FD302 Air Conditioner 3-ton, 27,000 BTU, \$755.00 ea.; 1-PA Section for AD32, \$24.00 ea.; 1-RS-45 Water Cooler, 4 h.p., \$189.50 ea. Prices are f.o.b. South Bend and offer is made subject to prior sale. BUILDICE COMPANY, INC., 2610 So. Shields Ave., Chicago 16, Illinois.

BARGAIN—10x10 York compressors direct connected to G-E engine type synchronous motors 350 rpm. Also V-belted models. Other buys in stock. Merchandise guaranteed. CONNECTICUT ICE MACHINE CO., INC., 7 Madison St., South Norwalk, Conn.

552 BUTS standard brand ¼-HP open type or sealed type complete units. Other sizes up to 3 HP. Write for complete listings on units and parts, including Klaxon overload relays @ 18¢. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y.

FOR SALE—brand new ¼ H.P. hermetic compressors. Model S-88—8½" high. Complete with relay and overload \$44.50. Send for your list on drives, valves, belts, pressure controls, fittings, relays. Supplies and parts at great savings. Sold on money back guarantee. WALTER W. FARR, 2633 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

FOR SALE. Coin machine route and commercial refrigeration business. Northern Wis. in the heart of the lakes. Established twenty years. Profitable business. \$10,000 cash down. Particulars furnished to party able to handle. Curiosity seekers do not apply. Write BOX 3940, Air Conditioning & Refrigeration News.

MISCELLANEOUS

HERMETICALLY SEALED units remanufactured. One year warranty. Norge all models. Hotpoint, G. E. (bottom units). \$49.50. Coldspot, Frigidaire, Westinghouse, Crosley, Kelvinator, and including ¼ H.P., \$45.00. Other models priced on request. You ship, freight prepaid. Return shipment forwarded C.O.D. NORD HERMETIC CO., 1701 San Leandro Blvd., San Leandro, California.

Brand New SILICA GEL DRYERS

25¢ ea. OF 100
Sample on request—50¢ ea.

NEW prominent brand 1 1/3 H.P. RELAYS

7.2 Amps... Special \$2.50 ea.
Special price in Quantities

4-BROS. REFRIG. MFG. CO.
1431 S. 8th St., Philadelphia, Pa.



GRAD-U-MATIC

AIR CONDITIONING

THE MARK OF A GOOD CASE

"LIFETIME" PORCELAIN OR STAINLESS STEEL EXTERIORS

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"P-H" REFRIGERATORS

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Accepted as the leaders in their field for over 50 years, P-H Cases and Cabinets give you the most efficient preservation of food through the exclusive Grad-U-Matic Air Conditioning system... longer life through such important features as Electrically Welded Steel Frames, Best Fiber Glass Insulation, Triple Thermopane Sealed Glass Windows, Welded Interior Porcelain Linings and "Lifetime" Porcelain or Stainless Steel Exteriors... plus an unmatched record of trouble-free performance, year after year. Every P-H Refrigerator is factory tested for temperature and efficiency including highly sensitive electronic leak detector tests. Illustrated above is the Model P-35-4 Self Contained Beach-In. Also available in 50 other models with capacities from 20 to 90 cu. ft., remote or self contained.

SEE YOUR NEAREST P-H DEALER FOR REACH-IN CABINETS... DAIRY-DELICATESSEN CASES... BEVERAGE COOLERS... PASS-THRU CABINETS... DOUGH RETARDERS... FLOREST CABINETS AND WALK-IN COOLERS.

PUFFER-HUBBARD MFG. CO.

GRAND HAVEN, MICHIGAN

UL Listed Under Re-Examination Service of Underwriter's Laboratories, Inc.

Refrigeration May Be Able To Beat Beetle To Get Satisfying Cigars

WASHINGTON, D. C.—Government studies indicate that refrigeration may solve an old problem for cigar manufacturers—getting rid of the cigarette beetle in tobaccos.

The studies were made by Joseph Tenhet and Clarence O. Bare of the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture.

Fumigation has been the method used to control the beetle. But since the tobacco must be held until all traces of the fumigant are gone, this is not too satisfactory. So cigar producers asked the bureau to look into the possibilities of low temperatures for eliminating the insect.

Among other things, the researchers found that for tobacco of medium order, a three-day exposure at -10° F. in circulated air was as effective as fumigation in an atmospheric chamber. For soft tobaccos at this temperature, an exposure of four to five days was necessary.

None of the tobaccos used was injured by the low temperature, according to tobacco experts. All samples were dry and hard when removed from storage but they absorbed moisture from the air in warming up. Some of the dry tobacco was slightly improved by the moisture pick-up.

Beacon Appliance Chartered

LAWRENCE, Kans.—Beacon Appliance Co. here has been granted a charter by the Secretary of State to deal in household appliances.

Appointees



FRANK QUINN



WARREN FARNUM

Farnum and Quinn Named As Baker District Mgrs.

SOUTH WINDHAM, Me.—Warren S. ("Bill") Farnum has been appointed Cleveland district manager for Baker Refrigeration Corp. and Frank Quinn has been named manager in the Washington-Philadelphia district, it was announced by Mark E. Mooney, vice president in charge of sales.

After graduation from Boston university in 1927, Farnum worked for Westinghouse Electric Corp. in the Boston area for several years. Later he was on the refrigeration and air conditioning sales staff of Worthington Pump & Machinery Corp. He comes to Baker from Remington Corp.

Quinn was graduated from Villanova in 1944 with a degree of bachelor of mechanical engineering. After three years' active duty as a lieutenant (j.g.) on a Navy sub-chaser, he worked for four years as sales engineer for Pierce-Phelps, Inc., and Air-A-Therm, Carrier distributors in Philadelphia. During this time, he attended the school for refrigeration and air conditioning engineers at the Carrier plant in Syracuse, graduating with honors.

For the past two years, Quinn has been with Lesaner Co., Baker distributor in Philadelphia. In his new post, he succeeds Walter Woodroof, who rejoined American Radiator & Standard Sanitary Corp. in February.

New York's Central Park Boasts 30,000-Sq. Ft. Artificial Skating Rink

NEW YORK CITY—New York's fabulous Central Park is believed to have the largest man-made artificially frozen ice skating rink in the United States.

Called the Wollman Memorial Skating Rink, the ice is produced by a York Corp. refrigeration system. The 30,000-sq. ft. area of this rink is said to have accommodated 3,200 ice skaters at one time.

To freeze the surface of the Wollman Rink, 90,000 lineal ft. (17 miles) of 1½-in. wrought iron pipe on 4-in. centers was imbedded in a patented concrete floor 6-in. thick poured as one slab in just 19 hours.

Brine for freezing the ice surface is supplied by two 45-in. by 16-in. brine coolers connected to three York 11½-in. by 10-in. 2-cylinder ammonia compressors, each driven by a 200-hp. synchronous motor. Three 30-in. by 16-ft. condensers complete the York plant.

During the past season (the first), the refrigeration plant operated 16 hours a day, with two compressors handling the load and the third in reserve.

The patented concrete floor, which was poured by American Carbonic Engineering Co., the mechanical contractor, wasn't put there just to keep the brine pipes in place and to hold up the ice. This continuous surface was poured smooth and level, and during the past summer was used for roller skating in the afternoons and as a dance pavilion in the evenings.

Graybar To Build \$1 Million Cleveland Office-Warehouse

CLEVELAND—Graybar Electric Co. will build a \$1,000,000 office and warehouse overlooking the lake front at E. 35th St. as soon as the State Highway Department starts construction of the \$6,000,000 Shore Dr. improvement.

C. E. Kirkpatrick, district manager for Graybar, said the one-story structure is being designed by architect J. Trevor Guy. The new building will take Graybar out of its downtown location at 1010 Rockwell Ave.

OPS Sets Up Principles, Procedures for Applying 'Industry Earnings Standard'

WASHINGTON, D. C.—A set of principles and procedures for the guidance of its commodity divisions in applying the "industry earnings standard" when entire industries request industry-wide ceiling price increases was announced recently by the Office of Price Stabilization.

The industry earnings standard provides generally that price relief will not be granted unless the industry can show that its current earnings are less than 85% of its earnings in the best three of the four years 1946 to 1949.

Thus, the OPS industry earnings standard uses the same base period as that used in the excess profits tax.

However, OPS has added a factor to be used in special circumstances. It said that where an industry's earnings were unreasonably low during the base period 1946-49, it will use a minimum industry return of 10% of net worth to take care of such cases.

On the other hand, if an industry made abnormally high net profits during 1946 by benefiting from post-war shortages, OPS will take 115% of the average earnings in 1947-49 when that is lower than 85% of the three best years between 1946-49.

Initiative in using the industry earnings standard to gain a general price increase lies with the industry concerned, OPS emphasized. The industry must show that a serious situation exists. Then OPS will undertake surveys and will take other steps to discover the facts.

Michael V. DiSalle approved the memorandum — Price Operations Memorandum No. 25—containing these principles and procedures, as his last official act as director of OPS. He noted that the earnings standard is not the only standard that will be used to determine whether industry-wide price increases will be necessary.

He said a product standard will be issued shortly which will be used where an industry may need price relief on some particular product even though over-all earnings are satisfactory.

There are also individual adjustment standards, he noted.

The memorandum said that the industry earnings standard is intended to protect the level of an industry's earnings. It does not promise that each producer will realize a profit. It will not be used as a standard for rollbacks.

"The basic philosophy of emergency price control is to preserve as far as possible prices and price relationships which existed in the period immediately preceding the emergency, adjusted as required by fairness and equity," the memorandum stated. "Thus, the industry earnings standard is not a rollback standard."

"On the contrary, it is one of the standards to be used in determining whether a price increase is necessary."

"Cost absorption, within reasonable limits, is fundamental to emergency price control. Prices need not be in-

creased unless the earnings standard (or some other applicable standard) calls for increases. If cost increases have not reduced earnings below the standard, then the cost increases must be absorbed.

Earnings are considered to be profits before income and excess profits taxes. Non-recurring and non-operating profits or losses (such as profits from the sale of securities or property, or losses from flood or fire), are to be excluded.

"Similarly, overcosting purchases or wages, accelerated amortization, and other unusual and excessive charges are not to be recognized."

"To avoid unfair treatment of the single-line producers (where high earnings of a few large multi-line producers so dominate the totals that the earnings standard for the industry will be met despite the relatively unfavorable showing made by the single-line producers) the industry earnings standard may also be applied to the product line separately considered, and ceilings set high enough to satisfy the earnings standard on the product line."

Additional sections of the memorandum deal with how an industry is to be defined; determination of net worth (that is, the aggregate book value of the ownership interest in a business unit); when and how to make earnings standard studies, and a step-by-step summary procedure in determining the necessity and amount of price adjustments.

Days File Business Name

BUFFALO—A business name has been filed in the Erie county clerk's office for the Avenue Electric & Appliance, 336 Kenmore Ave., Buffalo, by Ralph E. Day, Sr. and Beryl Day.

Wanted: a new kind of Crusader



... to help fight the strongest foe in the world—cancer.

Who is he? He is any generous person giving freely to the American Cancer Society's Cancer Crusade.

He believes that the light in the "lab" must not be extinguished... that his fellows must learn to recognize the symptoms of cancer and the need for early diagnosis... that more doctors, nurses and research scientists must be trained.

A victory against cancer now may mean protection for you later. Won't you help us by giving freely—giving generously—giving now? Mail your contribution to "Cancer" care of your local post office.

Help us fight your battle
Give to the
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Specialized air conditioning jobs at at Ortho Pharmaceutical Company's Manufacturing and laboratory Buildings illustrate the flexibility of Bush surface.

Here, in a combination well water and refrigeration job, Bush Water Coils deliver leaving air at a temperature lower than the leaving water.

Something for nothing...? No, merely special attention to water quantity... coil circulating... proper ratio of prime to secondary surface in the coil construction.

If you're using water to heat or cool, check Bush coils or units today. Catalog 425 contains complete specifications.

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Bank of Bush Water Coils in main duct. Note intermediate risers, Ranged top and bottom plates, drainage pet cocks. Contractor — A. I. McFarlan, New York, N. Y.